



## Discrete Devices

# Transistors

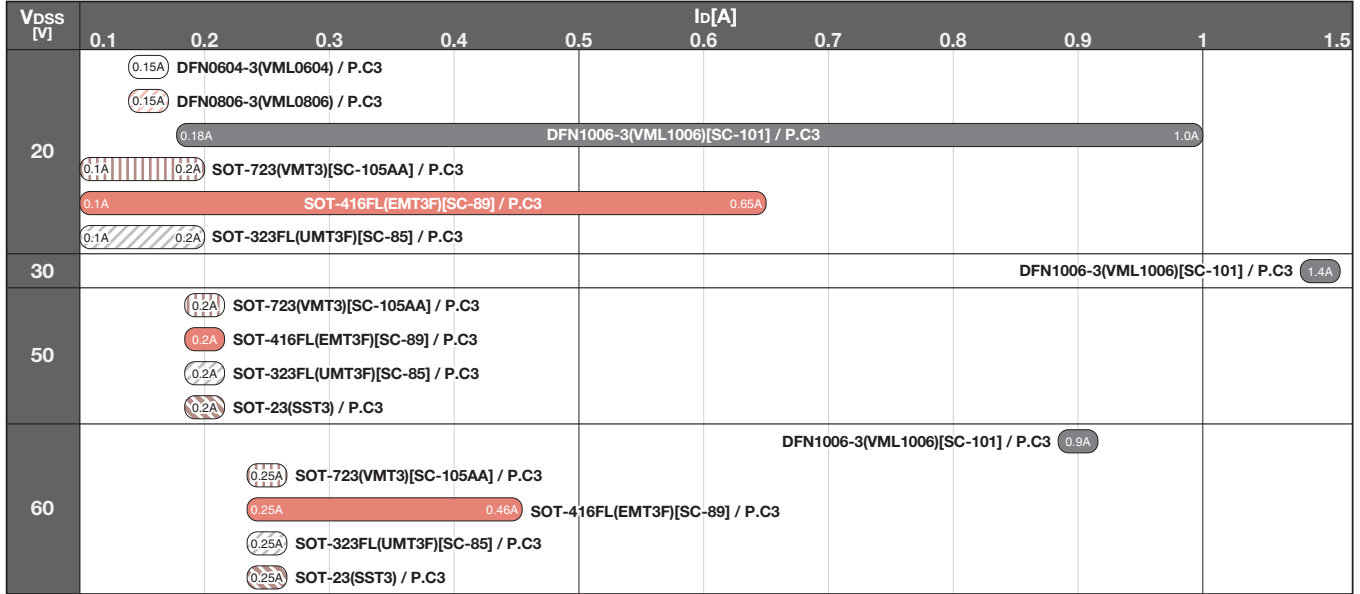
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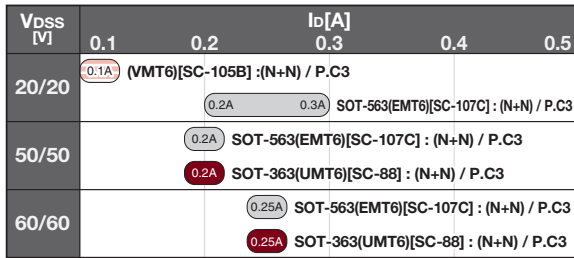
# Small Signal MOSFETs

## Quick Reference for Small Signal MOSFETs

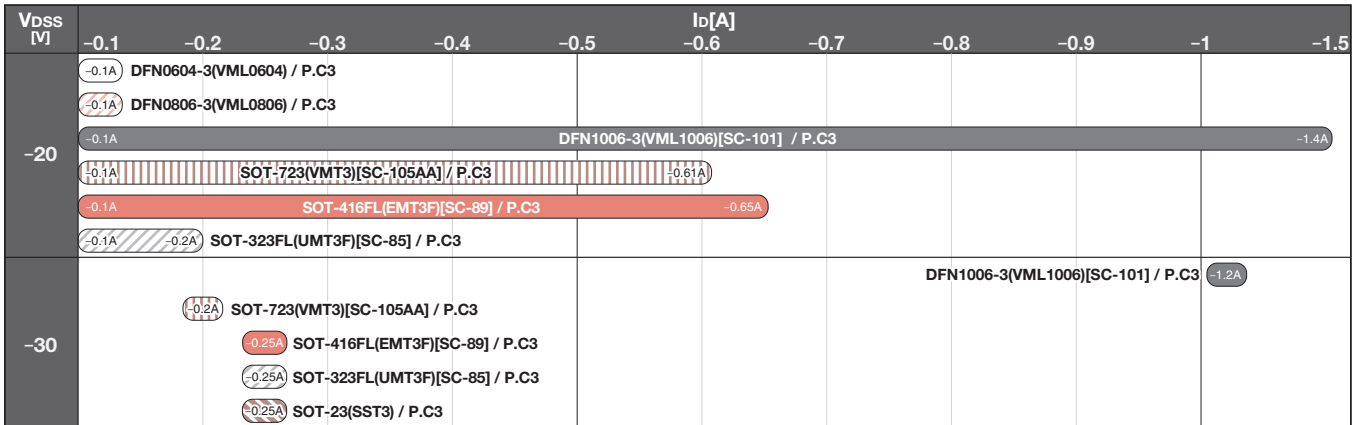
### Single Type<Nch>



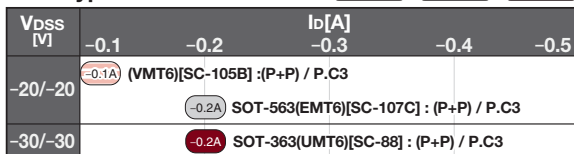
### Dual Type<Nch+Nch>



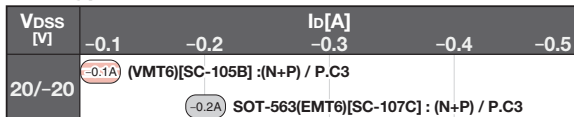
### Single Type<Pch>



### Dual Type<Pch+Pch>



### Dual Type<Nch+Pch>



Note: 1. Package is JEDEC code. ( ) : ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

C Transistors

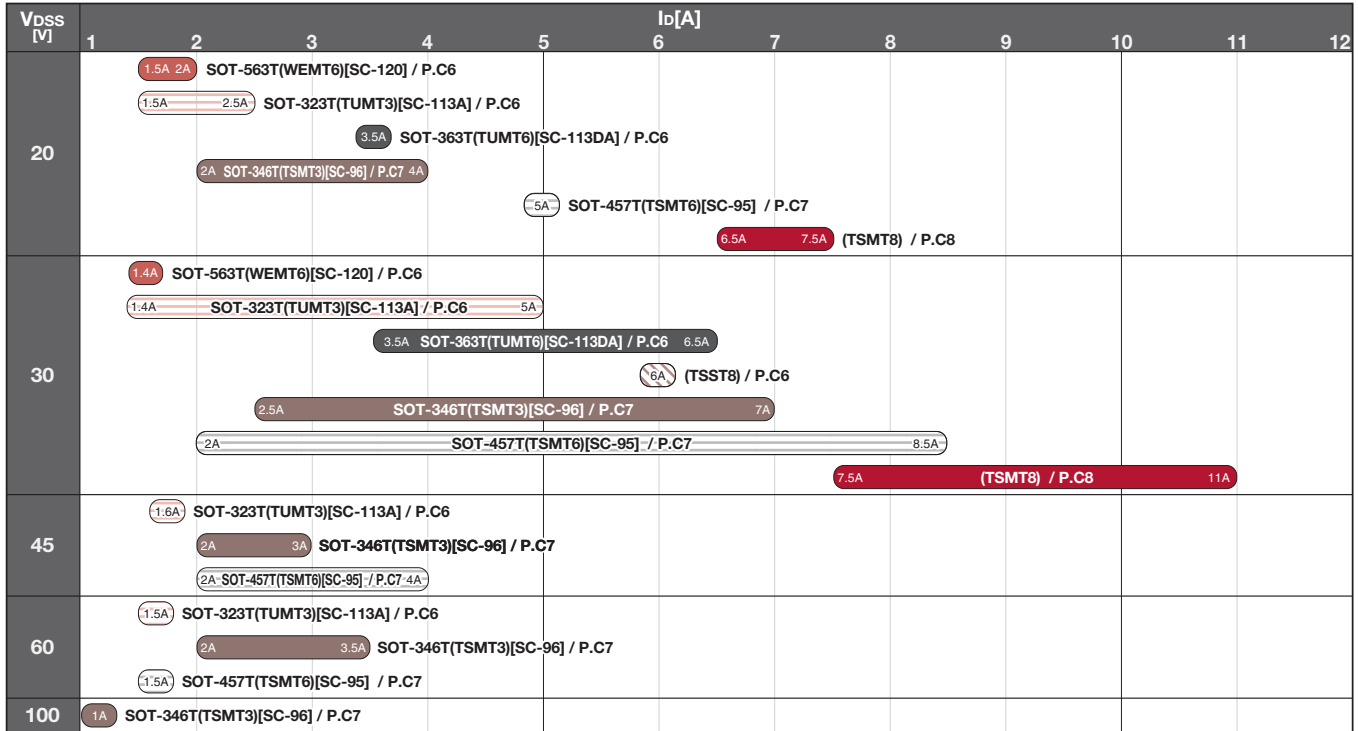
Small Signal MOSFET Series																			
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (Ω)													
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.5(1.8)V		V <sub>GS</sub> =1.2V		V <sub>GS</sub> =0.9V	
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.
DFN0604-3 (VML0604) 0604 Size	<b>New</b> RV3C002UN	N	20	0.15	0.10	—	—	1.40	2.00	—	—	1.70	2.60	2.70	5.40	—	—	—	—
	☆ RV3CA01ZP*1	P	-20	-0.10	0.10	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	—	—	—	—
	☆ RV3C001ZP	P	-20	-0.10	0.10	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	—	—	—	—
DFN0806-3 (VML0806) 0806 Size	RV1C002UN	N	20	0.15	0.10	—	—	1.40	2.00	—	—	1.70	2.60	2.70	5.40	3.80	11.40	—	—
	RV1C001ZP	P	-20	-0.10	0.10	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	10.00	40.00	—	—
DFN1006-3 (VML1006) [SC-101] 1006 Size	RV2C010UN	N	20	1.00	0.40	—	—	0.34	0.47	—	—	0.40	0.56	0.54	0.81	0.70	1.05	—	—
	RV2C002UN		20	0.18	0.10	—	—	1.40	2.00	—	—	1.70	2.60	2.70	5.40	3.80	11.40	—	—
	<b>New</b> RV2E014AJ		30	1.40*2	0.60*2	—	—	0.21	0.29	—	—	0.28	0.38	—	—	—	—	—	—
	☆ RV2L009GN	P	60	0.90*2	0.60*2	0.48	0.72	0.66	1.06	—	—	—	—	—	—	—	—	—	—
	RV2C001ZP		-20	-0.10	0.10	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	10.00	40.00	—	—
	<b>New</b> RV2C014BC		-20	-1.40*2	0.60*2	—	—	0.22	0.30	—	—	0.28	0.39	(0.37)	(0.70)	—	—	—	—
<b>New</b> RV2E012AT	-30	-1.20*2	0.60*2	0.32	0.41	0.44	0.57	—	—	—	—	—	—	—	—	—	—	—	
SOT-723 (VMT3) [SC-105AA] 1212 Size	RUM002N02	N	20	0.20	0.15	—	—	—	—	—	—	0.80	1.20	1.20	2.40	1.60	4.80	—	—
	RUM001L02		20	0.10	0.15	—	—	2.50	3.50	—	—	3.00	4.20	4.50	9.00	6.00	18.00	—	—
	RYM002N05		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	2.80	2.20	3.30	3.00	9.00
	RUM002N05		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	4.00	2.40	7.20	—	—
	RSM002N06		60	0.25	0.15	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	<b>New</b> RZM002P02 HC1	P	-20	-0.61*2	0.45*2	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—
	RZM002P02		-20	-0.20	0.15	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—
	RZM001P02		-20	-0.10	0.15	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	10.00	40.00	—	—
	RSM002P03		-30	-0.20	0.15	0.90	1.40	1.40	2.10	1.60	2.40	—	—	—	—	—	—	—	—
	VT6K1		N+N	20	0.10	0.15	—	—	2.50	3.50	—	—	3.00	4.20	4.50	9.00	6.00	18.00	—
(VMT6) [SC-105B] 1212 Size	VT6J1	P+P	-20	-0.10	0.15	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	10.00	40.00	—	—
	VT6M1	N+P	20	0.10	0.15	—	—	2.50	3.50	—	—	3.00	4.20	4.50	9.00	6.00	18.00	—	—
			-20	-0.10	0.15	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	13.30	53.20	—	—
SOT-416FL (EMT3F) [SC-89] 1616 Size	<b>New</b> RE1C002UN HC1	N	20	0.65*2	0.50*2	—	—	—	—	—	—	0.80	1.20	1.20	2.40	1.60	4.80	—	—
	RE1C002UN		20	0.20	0.15	—	—	—	—	—	—	0.80	1.20	1.20	2.40	1.60	4.80	—	—
	RE1C001UN		20	0.10	0.15	—	—	2.50	3.50	—	—	3.00	4.20	4.50	9.00	6.00	18.00	—	—
	RE1J002YN		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	2.80	2.20	3.30	3.00	9.00
	<b>New</b> RE1L002SN HC1	P	60	0.46*2	0.50*2	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	RE1L002SN		60	0.25	0.15	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	RE1C001ZP		-20	-0.10	0.15	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	10.00	40.00	—	—
	RE1C002ZP		-20	-0.20	0.15	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—
<b>New</b> RE1C002ZP HC1	-20	-0.65*2	0.50*2	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—		
RE1E002SP	-30	-0.25	0.15	0.90	1.40	1.40	2.10	1.60	2.40	—	—	—	—	—	—	—	—	—	
SOT-563 (EMT6) [SC-107C] 1616 Size	EM6K6	N+N	20	0.30	0.15	—	—	—	—	0.70	1.00	0.80	1.20	(1.00)	(1.40)	—	—	—	—
	EM6K7		20	0.20	0.15	—	—	—	—	—	—	0.80	1.20	1.20	2.40	1.60	4.80	—	—
	EM6K33		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	4.00	2.40	7.20	—	—
	EM6K34		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	2.80	2.20	3.30	3.00	9.00
	EM6K31		60	0.25	0.15	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	EM6J1	P+P	-20	-0.20	0.15	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—
	EM6M2	N+P	-20	-0.20	0.15	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—
SOT-323FL (UMT3F) [SC-85] 2021 Size	RU1C002UN	N	20	0.20	0.15	—	—	—	—	—	—	0.80	1.20	1.20	2.40	1.60	4.80	—	—
	RU1C001UN		20	0.10	0.20	—	—	2.50	3.50	—	—	3.00	4.20	4.50	9.00	6.00	18.00	—	—
	RU1J002YN		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	2.80	2.20	3.30	3.00	9.00
	RU1L002SN	P	60	0.25	0.20	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	RU1C002ZP		-20	-0.20	0.15	—	—	0.80	1.20	—	—	1.00	1.50	1.60	3.50	2.40	9.60	—	—
	RU1C001ZP		-20	-0.10	0.20	—	—	2.50	3.80	—	—	3.40	5.10	6.00	13.20	10.00	40.00	—	—
RU1E002SP	-30	-0.25	0.20	0.90	1.40	1.40	2.10	1.60	2.40	—	—	—	—	—	—	—	—	—	
SOT-363 (UMT6) [SC-88] 2021 Size	UM6K34N	N+N	50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	2.80	2.20	3.30	3.00	9.00
	UM6K33N		50	0.20	0.15	—	—	1.60	2.20	—	—	1.70	2.40	2.00	4.00	2.40	7.20	—	—
	UM6K31N		60	0.25	0.15	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	UM6J1N	P+P	-30	-0.20	0.15	0.90	1.40	1.40	2.10	1.60	2.40	—	—	—	—	—	—	—	—
SOT-23 (SST3) 2924 Size	RYC002N05	N	50	0.20	0.20	—	—	1.60	2.20	—	—	1.70	2.40	2.00	2.80	2.20	3.30	3.00	9.00
	RUC002N05		50	0.20	0.20	—	—	1.60	2.20	—	—	1.70	2.40	2.00	4.00	2.40	7.20	—	—
	RK7002BM	P	60	0.25	0.20	1.70	2.40	2.10	3.00	2.30	3.20	3.00	12.00	—	—	—	—	—	—
	RSC002P03		-30	-0.25	0.20	0.90	1.40	1.40	2.10	1.60	2.40	—	—	—	—	—	—	—	—

Notes : Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code \*1 For Overvoltage protection \*2 PW≤5s ☆ : Under Development

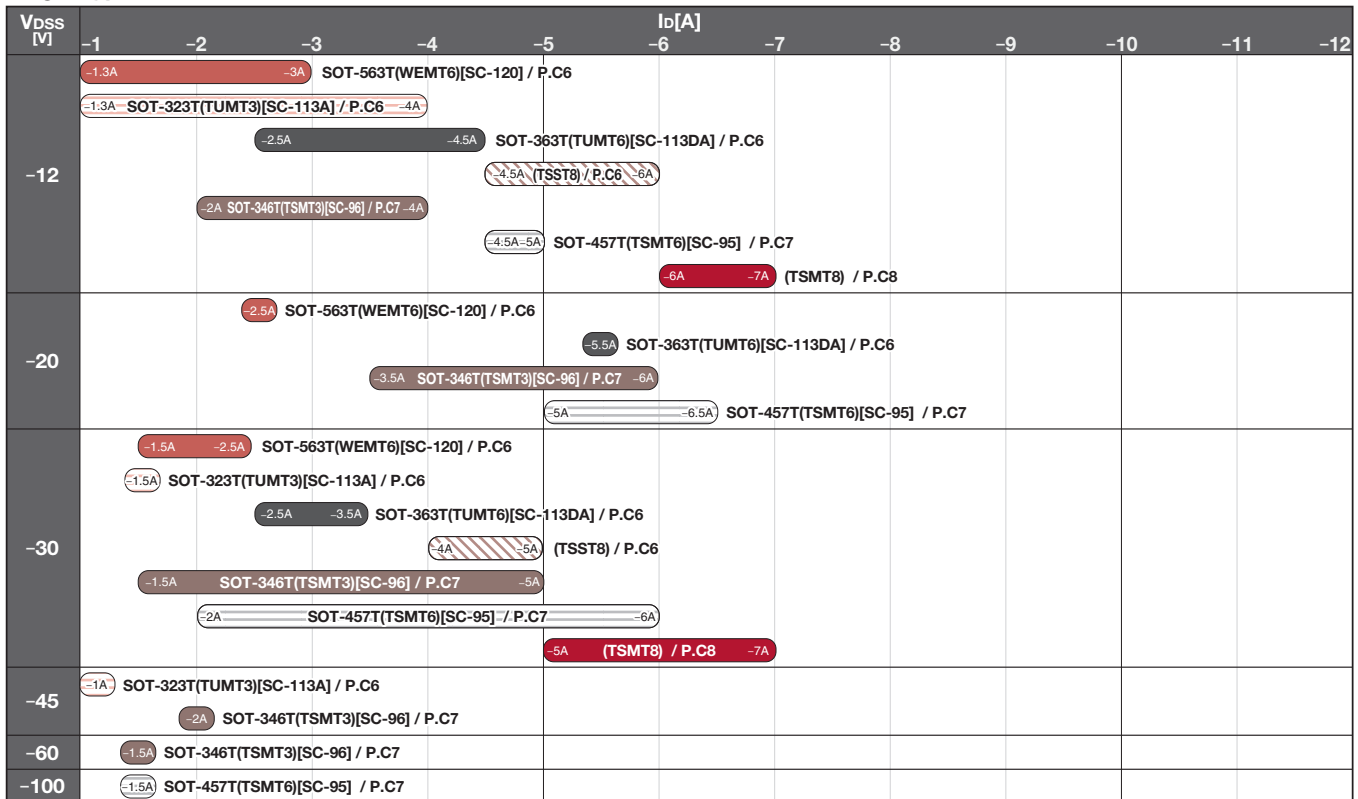
# Small Signal MOSFETs

## Quick Reference for Small Signal MOSFETs

### Single Type<Nch>



### Single Type<Pch>



Note: 1. Package is JEDEC code. ( ) : ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

C Transistors

### Quick Reference for Small Signal MOSFETs

#### Dual Type<Nch+Nch>



$V_{DSS}$ [V]	1	2	3	4	5	6	7	8	9	10
20/20		1.5A SOT-363T(TUMT6)[SC-113DA] :(N+N) / P.C6								
			2.5A (TSST8) :(N+N) / P.C6							
30/30		1.4A 1.5A SOT-363T(TUMT6)[SC-113DA] :(N+N) / P.C6								
			2.5A 3.0A (TSST8) :(N+N) / P.C6							
		2A SOT-25T(TSMT5) :(N+N) / P.C7								
	1A SOT-457T(TSMT6)[SC-95] :(N+N) / P.C7									
40/40					3.5A (TSMT8):(N+N) / P.C8				9A	
						6A 7A (TSMT8) :(N+N) / P.C8				
45/45	1A SOT-457T(TSMT6)[SC-95] :(N+N) / P.C7									
				4A (TSMT8) :(N+N) / P.C8						
100/100										

#### Dual Type<Pch+Pch>



$V_{DSS}$ [V]	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
-12/-12		-1.3A -2A SOT-363T(TUMT6)[SC-113DA] :(P+P) / P.C6								
			2.5A 3.5A (TSST8) :(P+P) / P.C6							
		-2A SOT-457T(TSMT6)[SC-95] :(P+P) / P.C7								
					-3.5A (TSMT8) :(P+P) / P.C8				-5.5A	
-20/-20			2.5A (TSST8) :(P+P) / P.C6							
					-5A (TSMT8) :(P+P) / P.C8					
-30/-30			2.5A (TSST8) :(P+P) / P.C6							
					-4A -5A (TSMT8) :(P+P) / P.C8					

#### Dual Type<Nch+Pch>



$V_{DSS}$ [V]	1	2	3	4	5	6	7	8	9	10
20/-12		1.3A 1.5A SOT-363T(TUMT6)[SC-113DA] :(N+P) / P.C6								
20/-20			2.4A 2.5A (TSST8) :(N+P) / P.C6							
30/-20		1A 1.5A SOT-363T(TUMT6)[SC-113DA] :(N+P) / P.C6								
			2.5A (TSST8) :(N+P) / P.C6							
	1.5A SOT-457T(TSMT6)[SC-95] :(N+P) / P.C7									
30/-30			2.5A 3A (TSST8) :(N+P) / P.C6							
					3A (TSMT8) :(N+P) / P.C8				9A	
60/-60		2A 3A (TSMT8) :(N+P) / P.C8								
100/-100		1.5A 2A (TSMT8) :(N+P) / P.C8								

Note: 1. Package is JEDEC code. ( ) :ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

# Small Signal MOSFETs


Small Signal MOSFETs																							
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (mΩ)										Q <sub>9</sub> (nC) (V <sub>GS</sub> =4.5V)							
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.5V									
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.								
SOT-563T (WEMT6) [SC-120] 1616 Size	RW1C020UN	N	20	2	0.7	—	—	75	105	—	—	95	135	170	240	2							
	RW1C015UN		20	1.5	0.7	—	—	130	180	—	—	170	240	300	600	1.8							
	RW1E014SN		30	1.4	0.7	170	240	250	350	270	380	—	—	—	—	1.4 <sup>*2</sup>							
	SOT-323T (TUMT3) [SC-113A] 2021 Size	RW1A030AP	P	-12	-3	0.7	—	—	30	42	—	—	40	56	75	150	22						
		RW1A025AP		-12	-2.5	0.7	—	—	44	62	—	—	55	77	90	180	16						
		RW1A020ZP		-12	-2	0.7	—	—	75	105	—	—	105	145	200	400	6.5						
		RW1A013ZP		-12	-1.3	0.7	—	—	190	260	—	—	280	390	530	1060	2.4						
		RW1C025ZP		-20	-2.5	0.7	—	—	48	65	—	—	65	90	120	240	10.5						
		RW1E025RP		-30	-2.5	0.7	55	75	85	115	95	125	—	—	—	—	5.2 <sup>*2</sup>						
RW1E015RP		-30		-1.5	0.7	115	160	170	240	190	270	—	—	—	—	3.2 <sup>*2</sup>							
RUF025N02		20		2.5	0.8	—	—	39	54	—	—	49	68	80	160	5							
RUF020N02		20		2	0.8	—	—	75	105	—	—	95	135	170	240	2							
SOT-363T (TUMT6) [SC-113DA] 2021 Size	RUF015N02	N	20	1.5	0.8	—	—	130	180	—	—	170	240	220 <sup>*1</sup>	310 <sup>*1</sup>	1.8							
	New RF5E050AJ		30	5	0.8	—	—	16.7	21.8	24	31.3	—	—	—	—	7.6							
	RTF025N03		30	2.5	0.8	—	—	48	67	50	70	70	98	—	—	3.7							
	RSF014N03		30	1.4	0.8	170	240	250	350	270	380	—	—	—	—	1.4 <sup>*2</sup>							
	RTF016N05		45	1.6	0.8	—	—	140	190	150	210	200	280	—	—	2.3							
	RSF015N06		60	1.5	0.8	210	290	240	330	255	350	—	—	—	—	2.0 <sup>*2</sup>							
	SOT-363T (TUMT6) [SC-113DA] 2021 Size	RAF040P01	P	-12	-4	0.8	—	—	22	30	—	—	27	38	40	68	37						
		RZF030P01		-12	-3	0.8	—	—	28	39	—	—	39	54	72	144	18						
		RZF020P01		-12	-2	0.8	—	—	75	105	—	—	105	145	200	400	6.5						
		RZF013P01		-12	-1.3	0.8	—	—	190	260	—	—	280	390	530	1060	2.4						
		RRF015P03		-30	-1.5	0.8	115	160	170	240	190	270	—	—	—	—	3.2 <sup>*2</sup>						
		RSF010P05		-45	-1	0.8	330	460	450	630	490	690	—	—	—	—	2.3 <sup>*2</sup>						
SOT-363T (TUMT6) [SC-113DA] 2021 Size		RUL035N02	N	20	3.5	1	—	—	31	43	—	—	38	53	66	93	5.7						
		New RF6E065BN		30	6.5	1	12.9	15.3	18.5	22.7	—	—	—	—	—	—	8.3						
		New RF6E045AJ		30	4.5	1	—	—	16.9	23.7	—	—	23.9	33.5	—	—	8.1						
		SOT-363T (TUMT6) [SC-113DA] 2021 Size	RTL035N03	N+N	30	3.5	1	—	—	40	56	42	59	56	79	—	—	4.6					
			US6K4		20	1.5	1	—	—	130	180	—	—	170	240	220 <sup>*1</sup>	310 <sup>*1</sup>	1.8					
			US6K1		30	1.5	1	—	—	170	240	180	250	240	340	—	—	1.6					
	SOT-363T (TUMT6) [SC-113DA] 2021 Size		US6K2	P	30	1.4	1	170	240	250	350	270	380	—	—	—	—	1.4 <sup>*2</sup>					
			RAL045P01		-12	-4.5	1	—	—	22	30	—	—	28	39	50	100	40					
			RAL035P01		-12	-3.5	1	—	—	30	42	—	—	40	56	75	150	22					
			SOT-363T (TUMT6) [SC-113DA] 2021 Size	RAL025P01	P	-12	-2.5	1	—	—	44	62	—	—	55	77	90	180	16				
				New RF6C055BC		-20	-5.5	1	—	—	19.5	25.7	—	—	24.7	33.1	33.7	63.6	15.2				
				RRL035P03		-30	-3.5	1	36	50	52	72	58	81	—	—	—	—	8.0 <sup>*2</sup>				
SOT-363T (TUMT6) [SC-113DA] 2021 Size				RRL025P03	P+P	-30	-2.5	1	55	75	85	115	95	125	—	—	—	—	5.2 <sup>*2</sup>				
				US6J12		-12	-2	1	—	—	75	105	—	—	105	145	200	400	7.6				
				US6J11		-12	-1.3	1	—	—	190	260	—	—	280	390	530	1060	2.4				
		SOT-363T (TUMT6) [SC-113DA] 2021 Size		US6M2	N+P	30	1.5	1	—	—	170	240	180	250	240	340	—	—	1.6				
				US6M1		-20	-1	1	—	—	280	390	310	430	570	800	—	—	2.1				
				US6M11		30	1.4	1	170	240	250	350	270	380	—	—	—	—	1.4 <sup>*2</sup>				
	SOT-363T (TUMT6) [SC-113DA] 2021 Size			US6M11	N+P	-20	-1	1	—	—	280	390	310	430	570	800	—	—	2.1				
				US6M11		20	1.5	1	—	—	130	180	—	—	170	240	300	600	1.8				
				US6M11		-12	-1.3	1	—	—	190	260	—	—	280	390	530	1060	2.4				
			(TSST8) 3019 Size	RT1E060XN	N	30	6	1.25	16	22	21	29	23	32	—	—	—	—	6.8 <sup>*2</sup>				
				TT8K1		20	2.5	1.25	—	—	52	72	—	—	65	90	100	140	3.6				
				TT8K2		30	2.5	1.25	—	—	65	90	70	95	95	130	—	—	3.2				
(TSST8) 3019 Size				TT8K11	N+N	30	3	1.25	51	71	67	94	78	109	—	—	—	—	2.5 <sup>*2</sup>				
				RT1A060AP		-12	-6	1.25	—	—	14	19	—	—	17	24	27	54	80				
				RT1A050ZP		-12	-5	1.25	—	—	19	26	—	—	26	36	48	96	34				
		(TSST8) 3019 Size		RT1A045AP	P	-12	-4.5	1.25	—	—	22	30	—	—	28	39	50	100	40				
				RT1E050RP		-30	-5	1.25	26	36	36	50	40	56	—	—	—	—	13 <sup>*2</sup>				
				RT1E040RP		-30	-4	1.25	32	45	45	63	52	72	—	—	—	—	10.5				
	(TSST8) 3019 Size			TT8J11	P+P	-12	-3.5	1.25	—	—	31	43	—	—	43	60	80	160	22				
				TT8J13		-12	-2.5	1.25	—	—	44	62	—	—	55	77	90	180	16				
				TT8J21		-20	-2.5	1.25	—	—	49	68	—	—	68	95	140	280	12				
				(TSST8) 3019 Size	TT8J2	P+P	-30	-2.5	1.25	60	84	95	130	115	160	—	—	—	—	4.8 <sup>*2</sup>			
					TT8J3		-30	-2.5	1.25	65	84	100	130	120	160	—	—	—	—	4.8 <sup>*2</sup>			
					TT8M1		20	2.5	1.25	—	—	52	72	—	—	65	90	100	140	3.6			
					(TSST8) 3019 Size	TT8M1	N+P	-20	-2.5	1.25	—	—	49	68	—	—	68	95	140	280	12		
						TT8M3		20	2.5	1.25	—	—	52	72	—	—	65	90	100	140	3.6		
						TT8M3		-20	-2.4	1.25	—	—	80	105	—	—	105	140	180	360	6.7		
						(TSST8) 3019 Size	TT8M2	N+P	30	2.5	1.25	—	—	65	90	70	95	95	130	—	—	3.2	
							TT8M2		-20	-2.5	1.25	—	—	49	68	—	—	68	95	140	280	12	
							TT8M11		30	3	1.25	51	71	67	94	78	109	—	—	—	—	2.5 <sup>*2</sup>	
							(TSST8) 3019 Size	TT8M11	N+P	-30	-2.5	1.25	60	84	95	130	115	160	—	—	—	—	4.8 <sup>*2</sup>

Notes : 1. Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code 2. \*1 : V<sub>GS</sub>=1.8V \*2 : V<sub>GS</sub>=5V

Small Signal MOSFETs																				
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (mΩ)												Q <sub>s</sub> (nC) (V <sub>GS</sub> =4.5V)		
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.8V		V <sub>GS</sub> =1.5V				
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
SOT-346T (TSM3) [SC-96] 2928 Size	RUR040N02	N	20	4	1	—	—	25	35	—	—	33	46	42	59	55	110	8		
	RUR020N02		20	2	1	—	—	75	105	—	—	95	135	130	185	170	240	2		
	New RQ5E070BN		30	7	1	12.4	16.1	16.5	20.4	—	—	—	—	—	—	—	—	—	11.7	
	RQ5E040AJ		30	4	1	—	—	27	37	—	—	39	54	—	—	—	—	—	4.3	
	RQ5E035BN		30	3.5	1	28	37	43	56	—	—	—	—	—	—	—	—	—	3.1	
	RQ5E030AJ		30	3	1	—	—	57	75	—	—	81	109	—	—	—	—	—	2.1	
	RSR025N03		30	2.5	1	50	70	74	105	83	118	—	—	—	—	—	—	—	2.9*1	
	RTR030N05		45	3	1	—	—	48	67	53	74	68	95	—	—	—	—	—	6.2	
	RTR025N05		45	2.5	1	—	—	95	130	100	140	125	175	—	—	—	—	—	3.2	
	RSR025N05		45	2.5	1	70	100	95	150	105	160	—	—	—	—	—	—	—	3.6*1	
	RTR020N05		45	2	1	—	—	130	180	135	190	180	250	—	—	—	—	—	2.9	
	☆ RQ5L035GN		60	3.5	1	38	51	53	72	—	—	—	—	—	—	—	—	—	3.8	
	RSR030N06		60	3	1	60	85	70	100	75	105	—	—	—	—	—	—	—	5*1	
	RSR020N06		60	2	1	120	170	140	195	150	210	—	—	—	—	—	—	—	2.7*1	
	RSR010N10		100	1	1	370	520	400	560	410	580	—	—	—	—	—	—	—	3.5*1	
	RZR040P01		-12	-4	1	—	—	22	30	—	—	30	42	40	60	55	110	30	30	
	RQ5A030AP		-12	-3	1	—	—	44	62	—	—	55	77	75	110	90	180	16	16	
	RZR025P01		-12	-2.5	1	—	—	44	61	—	—	60	84	81	121	110	220	13	13	
	RZR020P01		-12	-2	1	—	—	75	105	—	—	105	145	150	225	200	400	6.5	6.5	
	New RQ5C060BC		-20	-6	1	—	—	16.1	21.1	—	—	20.3	26.9	27.4	51.0	—	—	—	19.2	
	RQ5C035BC		-20	-3.5	1	—	—	42	59	—	—	54	76	84	135	—	—	—	6.5	
	New RQ5E050AT		-30	-5	1	21	26	30	37	—	—	—	—	—	—	—	—	—	9.7	
	RRR040P03		-30	-4	1	32	45	45	63	52	72	—	—	—	—	—	—	—	10.5*1	
	RQ5E035AT		-30	-3.5	1	38	50	54	70	—	—	—	—	—	—	—	—	—	5.2	
	RRR030P03		-30	-3	1	55	75	85	115	95	125	—	—	—	—	—	—	—	5.2*1	
	RQ5E025AT		-30	-2.5	1	70	91	104	135	—	—	—	—	—	—	—	—	—	2.7	
	RRR015P03		-30	-1.5	1	115	160	170	240	190	270	—	—	—	—	—	—	—	3.2*1	
	RQ5H020SP		-45	-2	1	130	190	180	260	200	280	—	—	—	—	—	—	—	9.5*2	
RQ5L015SP	-60	-1.5	1	200	280	240	340	255	360	—	—	—	—	—	—	—	10*2			
SOT-25T (TSM5) 2928 Size	QS5K2	N+N	30	2	1.25	—	—	71	100	76	107	110	154	—	—	—	—	2.8		
SOT-457T (TSM6) [SC-95] 2928 Size	RQ6C050UN	N	20	5	1.25	—	—	22	30	—	—	27	38	32	45	40	80	12		
	New RQ6E085BN		30	8.5	1.25	11.1	14.4	13.9	17.3	—	—	—	—	—	—	—	—	—	16.6	
	RQ6E055BN		30	5.5	1.25	19	25	30	39	—	—	—	—	—	—	—	—	—	4.4	
	RTQ045N03		30	4.5	1.25	—	—	30	43	32	45	42	60	—	—	—	—	—	7.6	
	RQ6E045BN		30	4.5	1.25	21	30	35	49	—	—	—	—	—	—	—	—	—	4.7	
	RTQ035N03		30	3.5	1.25	—	—	38	54	40	56	55	77	—	—	—	—	—	4.6	
	RTQ020N03		30	2	1.25	—	—	89	125	94	132	138	194	—	—	—	—	—	2.4	
	RSQ020N03		30	2	1.25	96	134	148	207	168	235	—	—	—	—	—	—	—	2.2*1	
	RVQ040N05		45	4	1.25	38	53	47	66	53	74	—	—	—	—	—	—	—	6.3*1	
	RTQ020N05		45	2	1.25	—	—	140	190	150	210	200	280	—	—	—	—	—	2.3	
	RSQ015N06		60	1.5	1.25	210	290	240	330	255	350	—	—	—	—	—	—	—	2*1	
	QS6K1		30	1	1.25	—	—	170	238	180	252	260	364	—	—	—	—	—	1.7	
	QS6K21		45	1	1.25	300	420	310	435	—	—	415	585	—	—	—	—	—	1.5	
	RZQ050P01		-12	-5	1.25	—	—	19	26	—	—	26	36	33	49	44	88	35	35	
	RAQ045P01		-12	-4.5	1.25	—	—	22	30	—	—	28	39	38	57	50	100	40	40	
	☆ RQ6C065BC		-20	-6.5	1.25	—	—	14.9	21.0	—	—	18.6	26.0	25.0	50.0	—	—	—	22	
	New RQ6C050BC		-20	-5	1.25	—	—	27	36	—	—	35	47	48	77	—	—	—	10.4	
	New RQ6E060AT		-30	-6	1.25	20.3	26.4	26.8	34.6	—	—	—	—	—	—	—	—	—	12.9	
	RQ6E050AT		-30	-5	1.25	21	27	29	38	—	—	—	—	—	—	—	—	—	10.4	
	RRQ045P03		-30	-4.5	1.25	25	35	34	48	38	53	—	—	—	—	—	—	—	14*1	
	RQ6E035AT		-30	-3.5	1.25	38	50	54	70	—	—	—	—	—	—	—	—	—	5.2	
	RQ6E030AT		-30	-3	1.25	70	91	104	135	—	—	—	—	—	—	—	—	—	2.7	
	RRQ020P03		-30	-2	1.25	115	160	170	240	190	270	—	—	—	—	—	—	—	3.2*1	
	RQ6P015SP		-100	-1.5	1.25	350	470	380	510	400	540	—	—	—	—	—	—	—	17*1	
	QS6J11		-12	-2	1.25	—	—	75	105	—	—	105	145	150	225	200	400	6.5	6.5	
	QS6M4		N+P	30	1.5	1.25	—	—	170	230	180	245	260	360	—	—	—	—	—	1.6
				-20	-1.5	1.25	—	—	155	215	170	235	310	430	—	—	—	—	—	3

Notes : 1. Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code 2. \*1 : V<sub>GS</sub>=5V \*2 : V<sub>GS</sub>=10V ☆ : Under Development

# Small Signal MOSFETs

Small Signal MOSFETs																				
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (mΩ)												Q <sub>9</sub> (nC) (V <sub>GS</sub> =4.5V)		
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.8V		V <sub>GS</sub> =1.5V				
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
	RQ1C075UN	N	20	7.5	1.5	—	—	11	16	—	—	14	20	17	24	20	40	18		
	RQ1C065UN		20	6.5	1.5	—	—	16	22	—	—	19	27	24	32	29	58	11		
	New RQ7E110AJ		30	11	1.5	—	—	6.8	9	—	—	9.1	12.4	—	—	—	—	—	22	
	RQ1E100XN	N+N	30	10	1.5	7.5	10.5	9.5	13.3	10	14	—	—	—	—	—	—	—	12.7*1	
	RQ1E075XN		30	7.5	1.5	12	17	17	24	19	27	—	—	—	—	—	—	—	6.8*1	
	QH8KA4		30	9	1.5	—	—	12.5	17	13	18	17	24	—	—	—	—	—	12	
	QS8K13		30	6	1.5	20	28	25	35	28	39	—	—	—	—	—	—	—	5.5*1	
	QH8KA2		30	4.5	1.5	25	35	40	56	—	—	—	—	—	—	—	—	—	4.7	
	QH8KA1		30	4.5*2	2.4*2	56	73	86	112	—	—	—	—	—	—	—	—	—	1.5	
	QS8K2		30	3.5	1.5	—	—	38	54	40	56	55	77	—	—	—	—	—	4.6	
	QS8K11		30	3.5	1.5	35	50	45	65	50	70	—	—	—	—	—	—	—	3.3*1	
	☆QH8K26		40	7	2.6*2	27	38	35	50	—	—	—	—	—	—	—	—	—	2.9*1	
	☆QH8K22		40	6	2.5*2	34.6	46	43.9	59	—	—	—	—	—	—	—	—	—	1.3	
	QS8K21		45	4	1.5	38	53	48	67	53	75	—	—	—	—	—	—	—	5.4*1	
	QS8K51		100	2	1.5	240	325	250	340	260	355	—	—	—	—	—	—	—	4.7*1	
	RQ1A070AP		P	-12	-7	1.5	—	—	10	14	—	—	13	19	18	27	24	48	80	
	RQ1A060ZP			-12	-6	1.5	—	—	16	23	—	—	22	31	28	42	39	78	34	
	RQ1E070RP			-30	-7	1.5	12	17	17	24	19	27	—	—	—	—	—	—	—	26*1
	RQ7E055AT			-30	-5.5	1.5	19.3	24.5	28.2	36.1	—	—	—	—	—	—	—	—	—	9.4
	RQ1E050RP		-30	-5	1.5	22	31	32	45	36	50	—	—	—	—	—	—	—	13*1	
	QS8J13		P+P	-12	-5.5	1.5	—	—	15	22	—	—	19	28	24	38	29	58	60	
	QS8J12	-12		-4.5	1.5	—	—	21	29	—	—	27	38	37	55	49	98	40		
	QS8J2	-12		-4	1.5	—	—	26	36	—	—	36	50	46	69	66	132	20		
	QS8J11	-12		-3.5	1.5	—	—	31	43	—	—	41	57	55	82	75	150	22		
	☆QH8JA1	-20		-5	1.5	—	—	28	38	—	—	35	48	49	77	—	—	—	10.2	
	QS8J5	-30		-5	1.5	28	39	40	56	45	63	—	—	—	—	—	—	—	10*1	
	QS8J4	-30		-4	1.5	40	56	55	77	60	84	—	—	—	—	—	—	—	8.4*1	
	QH8MA4	30		9*2	2.6*2	12.3	16	18.2	23.7	—	—	—	—	—	—	—	—	—	7.9	
		-30		-8*2	2.6*2	22	28.6	31	40.3	—	—	—	—	—	—	—	—	—	9.8	
	QH8MA3	30		7*2	2.5*2	22	29	35	46	—	—	—	—	—	—	—	—	—	3.7	
		-30	-5.5*2	2.5*2	37	48	55	72	—	—	—	—	—	—	—	—	—	5.2		
	QS8M13	N+P	30	6	1.5	20	28	25	35	28	39	—	—	—	—	—	—	—	5.5*1	
			-30	-5	1.5	28	39	40	56	45	63	—	—	—	—	—	—	—	10*1	
	QH8MA2		30	4.5	1.5	25	35	40	56	—	—	—	—	—	—	—	—	—	4.7	
			-30	-3	1.5	55	80	80	115	—	—	—	—	—	—	—	—	—	—	4.3
	QH8M22		40	4.5*3	1.5*3	34.6	46	43.9	59	—	—	—	—	—	—	—	—	—	1.3	
	-40		-6	1.5*3	130	190	180	260	—	—	—	—	—	—	—	—	—	—	4.4	
QS8M31	60		3	1.5	80	112	93	130	98	137	—	—	—	—	—	—	—	4.0*1		
	-60		-2	1.5	150	210	180	252	190	266	—	—	—	—	—	—	—	7.2*1		
QS8M51	100		2	1.5	240	325	250	340	260	355	—	—	—	—	—	—	—	4.7*1		
	-100		-1.5	1.5	350	470	380	510	400	540	—	—	—	—	—	—	—	17*1		

Notes: ( ) : ROHM Packages \*1: V<sub>GS</sub>=5V \*2: PW≤1s \*3: PW=5s

☆: Under Development



### Quick Reference for Multiple Schottky Barrier Diodes Middle Power MOSFET Series (WEMT • TUMT • TSST • TSMT Package)

Dual Type<MOSFET+SBD>

V <sub>DSS</sub> [V]	I <sub>D</sub> [A]			
	0.5	1	1.5	2
20			1.5A SOT-563T(WEMT6)[SC-120] : (N+SBD) / P.C9	2.5A SOT-25T(TSMT5) : (N+SBD) / P.C9
30			1.4A-1.5A SOT-563T(WEMT6)[SC-120] : (N+SBD) / P.C9	1.4A-1.5A SOT-353T(TUMT5)[SC-113CA] : (N+SBD) / P.C9
				SOT-25T(TSMT5) : (N+SBD) / P.C9 2A
-12			1.3A SOT-563T(WEMT6)[SC-120] : (P+SBD) / P.C9	
-20			-1A SOT-563T(WEMT6)[SC-120] : (P+SBD) / P.C9	
			-1A SOT-353T(TUMT5)[SC-113CA] : (P+SBD) / P.C9	
				(TSST8) : (P+SBD) / P.C9 -2.4A
			SOT-25T(TSMT5) : (P+SBD) / P.C9 -1.5A	-2A
			-1.5A SOT-457T(TSMT6)[SC-95] : (P+SBD) / P.C9	
-30				SOT-25T(TSMT5) : (P+SBD) / P.C9 -2A
			-1A SOT-457T(TSMT6)[SC-95] : (P+SBD) / P.C9	
-45			-0.7A SOT-353T(TUMT5)[SC-113CA] : (P+SBD) / P.C9	

Note: 1. Package is JEDEC code. ( ) : ROHM Packages 2.Character "N", "SBD" in parentheses represents "N-channel", "Schottky Barrier Diodes" respectively. 3. P.xx represents page number.

Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>Ds</sub> (on) (mΩ)										Q <sub>g</sub> (nC) (V <sub>GS</sub> =4.5V)
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.5V		
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	
SOT-563T (WEMT6) [SC-120] 1616 Size	ES6U2	N+SBD (0.5A)	20	1.5	0.8	—	—	130	180	—	—	170	240	300	600	1.8
	ES6U41		30	1.5	0.8	—	—	170	240	180	250	240	340	—	—	1.6
	ES6U3		30	1.4	0.8	170	240	250	350	270	380	—	—	—	—	1.4 *1
	ES6U1	P+SBD (0.5A)	-12	-1.3	0.8	—	—	190	260	—	—	280	390	530	1060	2.4
	ES6U42		-20	-1	0.8	—	—	280	390	310	430	570	800	—	—	2.1
SOT-353T (TUMT5) [SC-113CA] 2021 Size	US5U1	N+SBD (0.5A)	30	1.5	1	—	—	170	240	180	250	240	340	—	—	1.6
	US5U2		30	1.4	1	170	240	250	350	270	380	—	—	—	—	1.4 *1
	US5U30	P+SBD (0.5A)	-20	-1	1	—	—	280	390	310	430	570	800	—	—	2.1
	US5U35		-45	-0.7	1	600	800	900	1300	1000	1400	—	—	—	—	1.7 *1
(TSST8) 3019 Size	TT8U1	P+SBD (1A)	-20	-2.4	1.25	—	—	80	105	—	—	105	140	180	360	6.7
	TT8U2		-20	-2.4	1.25	—	—	80	105	—	—	105	140	180	360	6.7
SOT-25T (TSMT5) 2928 Size	QS5U36	N+SBD (0.7A)	20	2.5	1.25	—	—	58	81	—	—	74	104	120	240	3.5
	QS5U34	N+SBD (0.5A)	20	1.5	1.25	—	—	130	180	—	—	170	240	220 *6	310 *6	1.8
	QS5U13 *2		30	2	1.25	—	—	71	100	76	107	110	154	—	—	2.8
	QS5U16 *2	N+SBD (1A)	30	2	1.25	—	—	71	100	76	107	110	154	—	—	2.8
	QS5U12 *3		30	2	1.25	—	—	71	100	76	107	110	154	—	—	2.8
	QS5U17 *3		30	2	1.25	—	—	71	100	76	107	110	154	—	—	2.8
	QS5U28	P+SBD (1A)	-20	-2	1.25	—	—	90	125	97	135	175	245	—	—	4.8
	QS5U21 *4		-20	-1.5	1.25	—	—	160	200	180	240	260	340	—	—	4.2
	QS5U27 *4	P+SBD (0.5A)	-20	-1.5	1.25	—	—	160	200	180	240	260	340	—	—	4.2
	QS5U26 *5		-20	-1.5	1.25	—	—	160	200	180	240	260	340	—	—	4.2
	QS5U23 *5		-20	-1.5	1.25	—	—	160	200	180	240	260	340	—	—	4.2
QS5U33	P+SBD (1A)	-30	-2	1.25	95	135	145	205	160	225	—	—	—	—	3.4 *1	
SOT-457T (TSMT6) [SC-95] 2928 Size	QS6U22	P+SBD (0.7A)	-20	-1.5	1.25	—	—	155	215	170	235	310	430	—	—	3
	QS6U24		-30	-1	1.25	300	400	500	700	600	800	—	—	—	—	1.7 *1

Notes: Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code  
\*1 : V<sub>GS</sub>=5V \*2,\*3,\*4,\*5 : Please note that, although the internal circuit configuration may differ between part numbers, the electrical specifications remain the same. \*6 : V<sub>GS</sub>=1.8V

# Power MOSFETs

## Quick Reference for Power MOSFETs



### Single Type<Nch>

V <sub>DSS</sub> [V]	1	2	3	4	5	6	7	8	9	10	20	30	40	50		
30			3A SOT-89(MPT3)[SC-62] / P.C11				6A DFN2020-8S(HUML2020L8 Single) / P.C11					15A (HSMT8) / P.C11	39A			
40									9A DFN2020-8S(HUML2020L8 Single) / P.C11			(HSMT8) / P.C11	27A	39A		
60		2A SOT-89(MPT3)[SC-62] / P.C11					5.5A DFN2020-8S(HUML2020L8 Single) / P.C11								18A (HSMT8) / P.C11	39A

### Dual Type<Nch+Nch>

V <sub>DSS</sub> [V]	1	2	3	4	5	6	7	8	9	10	20	30	40	50	
30/30						5.5A DFN2020-8D(HUML2020L8 Dual):(N+N) / P.C11									
60/60			2.5A DFN2020-8D(HUML2020L8 Dual):(N+N) / P.C11					7A (HSML3030L10):(N+N) / P.C11		11A					

### Single Type<Pch>

V <sub>DSS</sub> [V]	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-20	-30	-40	-50	
-20										-10A DFN2020-8S(HUML2020L8 Single) / P.C11			30A (HSMT8) / P.C11		
-30							7.5A DFN2020-8S(HUML2020L8 Single) / P.C11							18A (HSMT8) / P.C11	39A

### Dual Type<Pch+Pch>

V <sub>DSS</sub> [V]	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
-20/-20					5A DFN2020-8D(HUML2020L8 Dual):(P+P) / P.C11					
-30/-30				4A DFN2020-8D(HUML2020L8 Dual):(P+P) / P.C11						

### Dual Type<Nch+Pch>

V <sub>DSS</sub> [V]	1	2	3	4	5	6	7	8	9	10	20	30	40	50
20/-20					5A 5.5A DFN2020-8D(HUML2020L8 Dual):(N+P) / P.C11									
30/-30				4A (HSMT8) / P.C11										

Note: 1. Package is JEDEC code. ( ):ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

Power MOSFETs <MPT3 · HUML2020L8 · HSMT8 · HSML3030L10 Package>																					
Package	Application	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (mΩ)												Q <sub>9</sub> (nC) (V <sub>GS</sub> =5V)		
							V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.8V		V <sub>GS</sub> =1.5V				
							Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
SOT-89 (MPT3) [SC-62] 4540 Size	DC-DC Converter Motor Drive	RHP030N03	N	30	3.0	2	90	120	—	—	160	210	—	—	—	—	—	—	6.5*3		
		RJP020N06		60	2.0	2	—	—	165	240	170	250	210	300	—	—	—	—	5*4		
		RHP020N06		60	2.0	2	150	200	200	280	240	340	—	—	—	—	—	—	—	7*3	
DFN2020-8S (HUML2020L8 Single) 2020 Size	DC-DC Converter	RF4E110GN	N	30	11	2	8.7	11.3	11.7	16.5	—	—	—	—	—	—	—	—	3.5*1		
		RF4E080GN		30	8.0	2	13.5	17.6	17.6	31.2	—	—	—	—	—	—	—	—	2.8*1		
		RF4E070GN		30	7.0	2	16.4	21.4	23.0	33.0	—	—	—	—	—	—	—	—	—	2.2*1	
		☆RF4G090GN		40	9.0	2	14.0	18.0	17.0	23.0	—	—	—	—	—	—	—	—	—	3.7	
		☆RF4L055GN		60	5.5	2	32.0	43.0	45.0	66.0	—	—	—	—	—	—	—	—	—	4.1*1	
		RF4E110BN		30	11	2	8.5	11.1	11.8	15.4	—	—	—	—	—	—	—	—	—	12*1	
	Load switch Switching	RF4E100AJ	N	30	10	2	—	—	9.4	12.4	—	—	13.3	17.9	—	—	—	—	—	13*1	
		RF4E080BN		30	8.0	2	13.5	17.6	18.9	24.6	—	—	—	—	—	—	—	—	—	7.2*1	
		RF4E070BN		30	7.0	2	22.0	28.6	30.8	40.0	—	—	—	—	—	—	—	—	—	4.6*1	
		New RF4E060AJ		30	6.0	2	—	—	28.0	37.0	—	—	41.0	55.0	—	—	—	—	—	4.0*1	
		RF4C050AP		-20	-10	2	—	—	18	26	—	—	22	31	27	45	32	65	—	—	55*1
		RF4C100BC		-20	-10	2	—	—	12.0	15.6	—	—	15.4	20.0	23.5	37.6	—	—	—	—	23.5*1
DFN2020-8D (HUML2020L8 Dual) 2020 Size	DC-DC Converter Switching	UT6K3	N+N	30	5.5	2	—	—	24	42	—	—	45	63	—	—	—	—	4.0*1		
		☆UT6K30		60	2.5	2	112	155	162	240	—	—	—	—	—	—	—	—	—	1.1*1	
		New UT6JA2	P+P	-30	-4.0	2	55	70	80	103	—	—	—	—	—	—	—	—	—	3.4*1	
		New UT6JA3		-20	-5.0	2	—	—	42	59	—	—	54	76	76	118	—	—	—	6.5*1	
		UT6MA3	N+P	20	5.5	2	—	—	30	42	—	—	45	63	—	—	—	—	—	4.0*1	
		-20		-5.0	2	—	—	42	59	—	—	54	76	—	—	—	—	—	—	6.5*1	
(HSMT8) 3333 Size	DC-DC Converter Switching	☆UT6MA2	N+P	30	4.0	2	37	46	59	80	—	—	—	—	—	—	—	—	2.2*1		
		-30		-4.0	2	55	70	80	103	—	—	—	—	—	—	—	—	—	3.3*1		
		RQ3E180GN	N	30	39*2	20*2	3.3	4.3	4.3	6.1	—	—	—	—	—	—	—	—	—	11.0*1	
		RQ3E150GN		30	39*2	17*2	4.7	6.1	6.2	8.8	—	—	—	—	—	—	—	—	—	7.4*1	
		RQ3E120GN		30	27*2	15*2	6.7	8.8	9.1	13.8	—	—	—	—	—	—	—	—	—	4.8*1	
		RQ3E100GN		30	21*2	15*2	8.9	11.7	12.0	20.0	—	—	—	—	—	—	—	—	—	3.9*1	
	RQ3E080GN	30		18*2	14*2	12.9	16.7	17.5	31.2	—	—	—	—	—	—	—	—	—	—	2.8*1	
	RQ3G150GN	40		39*2	20*2	5.1	7.2	6.4	8.9	—	—	—	—	—	—	—	—	—	—	11.6*1	
	Load switch Switching	RQ3G100GN	N	40	27*2	15*2	11.0	14.3	14.1	18.3	—	—	—	—	—	—	—	—	—	4.3*1	
		☆RQ3L090GN		60	30*2	20*2	10.3	13.9	14.6	21.4	—	—	—	—	—	—	—	—	—	13*1	
		RQ3L050GN		60	13*2	15*2	43	61	61	86	—	—	—	—	—	—	—	—	—	2.8*1	
		RQ3E180AJ		30	30*2	30*2	—	—	3.5	4.5	—	—	4.5	5.8	—	—	—	—	—	39*1	
New RQ3E110AJ		30		24*2	15*2	—	—	8.8	11.7	—	—	12.6	16.5	—	—	—	—	—	13.5*1		
RQ3E180BN		30		39*2	20*2	2.8	3.9	3.7	5.2	—	—	—	—	—	—	—	—	—	37*1		
RQ3E150BN		30	39*2	17*2	3.8	5.3	5.3	7.4	—	—	—	—	—	—	—	—	—	23*1			
RQ3E130BN		30	39*2	16*2	4.4	6.0	6.7	9.4	—	—	—	—	—	—	—	—	—	16*1			
RQ3E120BN		30	21*2	16*2	6.6	9.3	8.6	11.9	—	—	—	—	—	—	—	—	—	—	14*1		
RQ3E100BN		30	21*2	15*2	7.7	10.4	11.0	15.3	—	—	—	—	—	—	—	—	—	—	10.5*1		
RQ3E080BN		30	15*2	14*2	11.0	15.2	16.0	22.0	—	—	—	—	—	—	—	—	—	—	7.2*1		
RQ3E070BN		30	15*2	13*2	20.0	27.0	29.0	39.0	—	—	—	—	—	—	—	—	—	—	4.6*1		
RQ3E160AD	30	16	2	3.5	4.5	5.0	7.0	—	—	—	—	—	—	—	—	—	—	25*1			
RQ3C150BC	P	-20	-30*2	20*2	—	—	4.8	6.7	—	—	6.1	8.5	8.8	14.0	—	—	—	—	60*1		
RQ3E120AT		-30	-39*2	20*2	6.1	8.0	8.7	11.3	—	—	—	—	—	—	—	—	—	—	33*1		
New RQ3E075AT		-30	-18*2	15*2	17.4	23.0	26.0	33.0	—	—	—	—	—	—	—	—	—	—	10.4*1		
(HSML3030L10) 3030 Size	DC-DC Converter	HS8K1	N+N	30	10	2	11.2	14.6	14.7	20.0	—	—	—	—	—	—	—	—	2.7*1		
				30	11	2	9.1	11.8	11.9	16.5	—	—	—	—	—	—	—	—	—	3.3*1	
				30	7.0	2	12.8	17.9	20.8	29.1	—	—	—	—	—	—	—	—	—	—	5.7*1
				30	11	2	10.2	13.3	11.8	15.4	—	—	—	—	—	—	—	—	—	—	9.0*1

Notes : Package is JEDEC code. ( ) : ROHM Packages , [ ] : JEITA Code \*1 : V<sub>GS</sub>=4.5V \*2 : T<sub>C</sub>=25°C \*3 : V<sub>GS</sub>=10V \*4 : V<sub>GS</sub>=4V ☆ : Under Development

# Power MOSFETs

## ● Quick Reference for Power MOSFETs (SOP8 Single/Dual Package)



### Single Type<Nch>

V <sub>DSS</sub> [V]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
20										10A								
30							7A						13.5A					
45							7A											
60					4.5A													14A

### Dual Type<Nch+Nch>

V <sub>DSS</sub> [V]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
30/30				3.5A														15A
40/40					5.2A		7A											
60/60					4.5A													
80/80				3.4A														
100/100			3A															

### Single Type<Pch>

V <sub>DSS</sub> [V]	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18
-30				4.4A														14A
-45							7A											

### Dual Type<Pch+Pch>

V <sub>DSS</sub> [V]	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18
-30/-30					-4.5A													-9A
-60/-60					-4.5A													

### Dual Type<Nch+Pch>

V <sub>DSS</sub> [V]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
30/-30				3.5A														9A
45/-45				3.5A	4.5A													
60/-60					4.5A													
80/-80				2.6A	3.4A													
100/-100				2.5A	3A													

Note: 1.( ):ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

C

Transistors

Power MOSFETs

<SOP8 Package> (Single Type)																	
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (mΩ)										Q <sub>g</sub> (nC) (V <sub>GS</sub> =5V)	
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.5V			
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.		
	RUS100N02	N	20	10	2	—	—	8	12	—	—	9	13	13	19	24*1	
	<b>New</b> RS3E135BN		30	13.5	2	5.7	7.4	8.5	10.9	—	—	—	—	—	—	—	16.6*1
	RXH125N03		30	12.5	2	7.5	12	9.5	13.3	10	14	—	—	—	—	—	12.7
	RXH100N03		30	10	2	9.5	13	12	17	13	18	—	—	—	—	—	11.0
	<b>New</b> RS3E095BN		30	9.5	2	11.9	14.6	17.5	21.9	—	—	—	—	—	—	—	8.3*1
	RXH090N03		30	9	2	12	17	17	24	19	27	—	—	—	—	—	6.8
	RXH070N03		30	7	2	20	28	25	35	28	39	—	—	—	—	—	5.8
	RSH070N05		45	7	2	18	25	23	32	25	35	—	—	—	—	—	12
	☆RS3L140GN		60	14	2	4.9	6.5	6.8	9.6	—	—	—	—	—	—	—	58*1
	RSH065N06		60	6.5	2	24	37	28	44	31	48	—	—	—	—	—	11
	☆RS3L045GN		60	4.5	2	43	59	62	92	—	—	—	—	—	—	—	5.6*1
	RRH140P03		-30	-14	2	5.0	7.0	6.7	9.4	7.3	10.2	—	—	—	—	—	80
	RRH100P03		-30	-10	2	9.0	12.6	12.5	17.5	14.0	19.6	—	—	—	—	—	39
	RRH090P03		-30	-9	2	11.0	15.4	15.0	21.0	17.0	24.0	—	—	—	—	—	30
	<b>New</b> RS3E075AT	-30	-7.5	2	18.0	23.5	24.0	31.0	—	—	—	—	—	—	—	12.8*1	
	RRH050P03	-30	-5	2	36	50	52	72	58	80	—	—	—	—	—	9.2	
RRH040P03	-30	-4	2	55	75	85	115	95	125	—	—	—	—	—	5.2		
RSH070P05	-45	-7	2	19	27	25	35	28	39	—	—	—	—	—	34		

<SOP8 Package> (Dual Type)															
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (Ta=25°C)	R <sub>DS(on)</sub> (mΩ)						Q <sub>g</sub> (nC) (V <sub>GS</sub> =5V)			
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V					
						Typ.	Max.	Typ.	Max.	Typ.	Max.				
	<b>New</b> SH8KA7	N+N	30	15	2	7.1	9.1	8.3	10.7	—	—	—	—	41*1	
	☆SH8KA4		30	9*3	3*3	16.5	21.4	22.2	28.9	—	—	—	—	7.9*1	
	☆SH8KA2		30	8*3	2.8*3	23	28	34	43	—	—	—	—	4.1*1	
	SH8K12		30	6*3	2	30	42	40	56	45	63	—	—	—	4
	☆SH8KA1		30	4.5*3	2.7*3	54	69	84	109	—	—	—	—	—	1.6*1
	SH8K11		30	3.5	2	70	98	90	126	100	140	—	—	—	1.9
	SH8K26		40	7	2	27	38	35	50	—	—	—	—	—	2.9
	SH8K25		40	5.2*3	3*3	60	85	80	112	—	—	—	—	—	1.7
	☆SH8K39		60	8	2	15	21	20	30	—	—	—	—	—	12.8*1
	☆SH8K37		60	5.5	2	33	46	44	46	—	—	—	—	—	5.2*1
	SH8K32		60	4.5	2	46	65	52	73	55	77	—	—	—	7
	SH8K41		80	3.4	2	90	130	110	150	120	160	—	—	—	6.6
	<b>New</b> SH8K52		100	3.0	2	120	170	135	190	—	—	—	—	—	8.5
	SH8J66		-30	-9	2	13.5	18.5	17.5	23.6	19	24.7	35	—	—	—
	SH8J65		-30	-7	2	21.5	29	29	39	31	40.8	18	—	—	—
	SH8J62		-30	-4.5	2	40	56	55	77	60	84	8	—	—	—
	<b>New</b> SH8J31	-60	-4.5	2	50	70	55	80	60	85	40*2	—	—	—	
	SH8M14	30	9	2	15	21	18	25	20	28	8.5	—	—	—	
	SH8M13	-30	-7		21.5	29	29	39	31	40.8	18	—	—	—	
	SH8M12	30	6	2	22	31	30	42	35	49	5	—	—	—	
	SH8M11	-30	-7		21.5	29	29	39	31	40.8	18	—	—	—	
	SH8M12	30	5	2	30	42	40	56	45	63	4	—	—	—	
	SH8M11	-30	-4.5		40	56	55	77	60	84	8	—	—	—	
	SH8M11	30	3.5	2	70	98	90	126	100	140	1.9	—	—	—	
	SH8M24	-30	-3.5		70	98	100	140	110	155	4.2	—	—	—	
	SH8M24	45	4.5	2	33	46	41	57	46	64	6.8	—	—	—	
	SH8M31	-45	-3.5		45	63	60	84	66	92	13	—	—	—	
	<b>New</b> SH8M31	60	4.5	2	46	65	52	73	55	77	7.0*1	—	—	—	
SH8M41	-60	-4.5	50		70	55	80	60	85	20*1	—	—	—		
SH8M41	80	3.4	2	90	130	110	150	120	160	6.6	—	—	—		
SP8M51	-80	-2.6		165	240	220	300	230	310	8.2	—	—	—		
SP8M51	100	3	2	120	170	130	180	135	190	8.5	—	—	—		
SP8M51	-100	-2.5		210	290	230	320	240	340	12.5	—	—	—		

Notes: ( ) : ROHM Packages \*1: V<sub>GS</sub>=4.5V \*2: V<sub>GS</sub>=10V \*3: PW≤1s

☆: Under Development

# Power MOSFETs

## Quick Reference for Power MOSFETs (HSOP8 Single Type)

Single Type<Nch>

(HSOP8S)

V <sub>DSS</sub> [V]	Feature	10	20	30	40	50	60	70	80
30	Switching				35A		(HSOP8S) / P.C14		80A
40					34A		(HSOP8S) / P.C14		80A
60					36A		(HSOP8S) / P.C14		66A

Note: 1. ( ):ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

(HSOP8 Single Type)												
Package	Application	Part No.	Polarity (ch)	V <sub>BSS</sub> (V)	I <sub>D</sub> (A) (T <sub>C</sub> =25°C)	P <sub>D</sub> (W) (T <sub>C</sub> =25°C)	R <sub>DS</sub> (on) (mΩ)				Q <sub>G</sub> (nC) (V <sub>GS</sub> =4.5V)	Drive Voltage (V)
							V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V			
							Typ.	Max.	Typ.	Max.		
	Load switch	RS1E350BN	N	30	80	35	1.2	1.7	1.8	2.5	95	4.5
		RS1E280BN		30	80	30	1.7	2.3	2.3	3.2	50	
		RS1E240BN		30	40	30	2.3	3.2	3.3	4.6	35	
		RS1E200BN		30	68	25	2.8	3.9	3.8	5.3	29	
		RS1E180BN		30	60	25	3.5	4.9	4.9	6.9	23	
	DC-DC Converter Switching	New RS1E350GN	N	30	80	39	1.48	1.76	1.92	2.40	32.7	
		RS1E320GN		30	80	34	1.4	1.9	1.8	2.9	19.6	
		RS1E300GN		30	80	33	1.7	2.2	2.2	3.3	18.5	
		RS1E280GN		30	80	31	2.0	2.6	2.6	3.8	17.1	
		RS1E240GN		30	72	27	2.6	3.3	3.3	5.2	11.2	
		RS1E200GN		30	57	25	3.6	4.6	4.7	7.5	7.8	
		RS1E170GN		30	40	23	5.1	6.7	6.7	10.3	5.9	
		RS1E150GN		30	40	22	6.7	8.8	8.8	13.3	4.8	
		RS1E130GN		30	35	22	8.9	11.7	11.7	17.7	3.9	
		RS1G300GN		40	80	35	1.9	2.5	2.4	3.0	28.6	
		RS1G260MN		40	80	35	2.4	3.3	3.2	4.4	44 *	
		RS1G180MN		40	57	30	5.0	7.0	6.7	9.2	19.5 *	
		RS1G150MN		40	43	25	7.6	10.6	10.2	13.3	15 *	
		RS1G120MN		40	34	25	11.6	16.2	15.6	20.7	9.4 *	
		☆ RS1L180GN		60	66	39	4.0	6.0	6.0	8.9	33.5	
☆ RS1L145GN	60	46	31	6.7	9.7	9.6	14.1	19.5				
☆ RS1L120GN	60	36	27	9.3	12.7	13.4	19.8	14				

Note: ( ):ROHM Packages \* : V<sub>GS</sub>=10V

☆ : Under Development

## Quick Reference for Power MOSFETs (HSOP8 Dual Type)

Dual Type<Nch+Nch>

(HSOP8D)

V <sub>DSS</sub> [V]	Feature	10	20	30	40	50	60	70	80
30/30	Switching	14A		(HSOP8D) : (N+N) / P.C14				80A	
		27A		(HSOP8D) : (N+N+SBD) / P.C14				80A	

Dual Type<Nch+Pch>

V <sub>DSS</sub> [V]	Feature	10	20	30	40	50	60	70	80
30/-30	Motor	15A/18A		(HSOP8D) : (N+P) / P.C14					
V <sub>DSS</sub> [V]	Feature	1	2	3	4	5	6	7	8
100/-100	Motor	4.5A		(HSOP8D) : (N+P) / P.C14				8A	

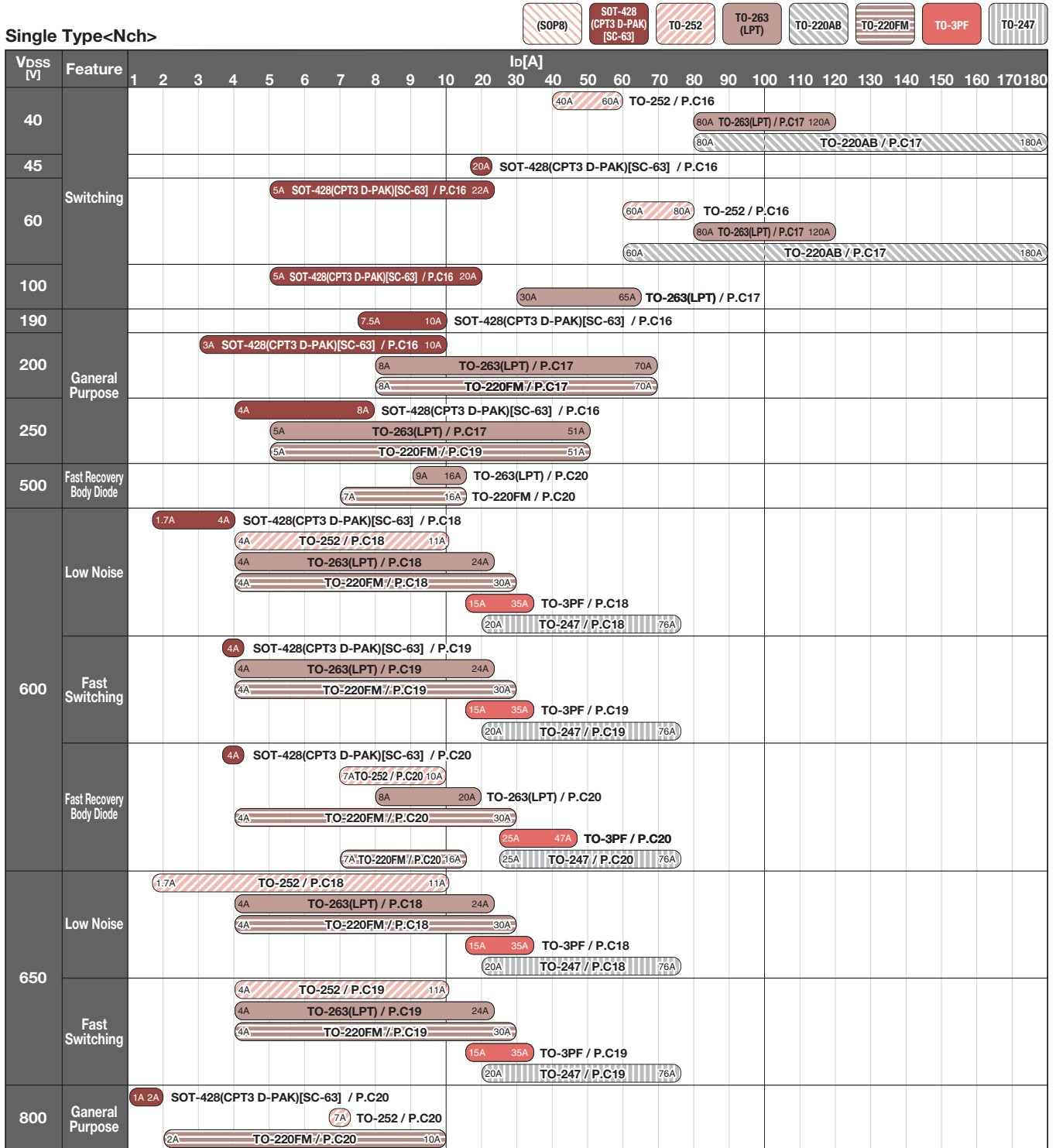
Note: 1. ( ):ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

(HSOP8 Dual Type)												
Package	Application	Part No.	Polarity (ch)	V <sub>BSS</sub> (V)	I <sub>D</sub> (A) (T <sub>C</sub> =25°C)	P <sub>D</sub> (W) (T <sub>C</sub> =25°C)	R <sub>DS</sub> (on) (mΩ)				Q <sub>G</sub> (nC) (V <sub>GS</sub> =4.5V)	Drive Voltage (V)
							V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V			
							Typ.	Max.	Typ.	Max.		
	DC-DC Converter Switching	HP8K24	N+N	30	80	31	2.3	3.0	3.2	4.2	17.2	4.5
				30	27	22	6.7	8.8	9.1	13.3	4.8	
		HP8K22	N+N	30	57	25	3.6	4.6	4.7	7.5	7.8	
				30	27	22	6.7	8.8	9.1	13.3	4.8	
				30	80	29	2.0	2.4	2.3	2.8	47	
HP8S36	N+N+SBD	30	27	22	6.7	8.8	9.1	13.3	4.8			
		30	27	22	6.7	8.8	9.1	13.3	4.8			
	Motor	New HP8MA2	N	30	18 *2	7 *2	7.5	9.6	11.7	16.5	10.5	4.5
		☆ HP8M51	P	-30	-15 *2	7 *2	13.2	17.9	21	29	12.8	
			N	100	6 *2	7 *2	120	170	130	180	8.5 *3	
	Load switch	HP8KA1	N+N	30	14 *1	3 *1	3.5	5.0	5.0	7.0	24	
				30	14 *1	3 *1	3.5	5.0	5.0	7.0	24	

Note: ( ):ROHM Packages \*1:T<sub>a</sub>=25°C \*2:Pw<1s \*3 : V<sub>GS</sub>=10V

☆ : Under Development

Quick Reference for Power MOSFETs



Note: 1. Package is JEDEC code. ( ):ROHM Packages 2.Character "N", "P" in parentheses indicates "N-channel", "P-channel" respectively. 3. P.xx represents page number.

# Power MOSFETs

Power MOSFETs												
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (T <sub>C</sub> =25°C)	R <sub>DS(on)</sub> (mΩ)						Q <sub>g</sub> (nC) (V <sub>GS</sub> =10V)
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		
						Typ.	Max.	Typ.	Max.	Typ.	Max.	
TO-252	RD3G600GN	N	40	60	40	2.8	3.6	3.3	4.3	—	—	46.5
	RD3G500GN		40	50	35	3.9	4.9	4.7	6.3	—	—	31
	RD3G400GN		40	40	26	5.6	7.5	7.0	9.5	—	—	19
	☆RD3L08BGN		60	80	119	4.2	5.1	5.7	8.0	—	—	71
	☆RD3L08CGN		60	80	96	5.3	7.0	7.4	10.7	—	—	55
	☆RD3L06BGN		60	60	65.7	9.9	13.5	14.3	21.0	—	—	25
SOT-428 (CPT3 D-PAK) [SC-63]	RSD200N05	N	45	20	20	20	28	25	35	28	40	12 *
	RSD221N06		60	22	20	18	26	21	30	23	33	30
	RSD150N06		60	15	20	28	40	33	47	36	51	18
	RSD080N06		60	8	15	57	80	70	98	78	109	9.4
	RSD050N06		60	5	15	78	109	94	131	100	140	8
	RSD201N10		100	20	20	33	46	—	—	36	50	55
	RSD175N10		100	17.5	20	75	105	80	112	85	119	24
	RSD100N10		100	10	20	95	133	100	140	105	147	18
	RSD050N10		100	5	15	135	190	142	200	145	205	14
	RCD100N19		190	10	85	130	182	—	—	136	190	52
	RCD075N19		190	7.5	52	240	336	—	—	248	347	30
	RCD100N20		200	10	85	140	182	—	—	—	—	26
	RCD075N20		200	7.5	52	250	325	—	—	—	—	15
	RCD051N20		200	5	29	540	760	—	—	—	—	9
	RND030N20		200	3	22	740	820	—	—	—	—	7
	RCD080N25		250	8	85	225	300	—	—	—	—	25
	RCD060N25		250	6	52	410	530	—	—	—	—	15
	RCD041N25		250	4	29	930	1300	—	—	—	—	9
	RSD160P05	—45	—16	20	35	50	45	63	50	70	16 *	
	RSD080P05	—45	—8	15	65	91	95	133	105	147	9 *	
	RSD046P05	—45	—4.5	15	110	155	160	225	185	260	12	
	RSD140P06	—60	—14	20	60	84	73	103	77	108	27	
	RSD131P10	—100	—13	20	135	200	150	220	155	230	40	

Note: Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code \* : V<sub>GS</sub>=5V

☆ : Under Development



Power MOSFETs												
Package	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (T <sub>C</sub> =25°C)	R <sub>DS(on)</sub> (mΩ)						Q <sub>g</sub> (nC) (V <sub>GS</sub> =10V)
						V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =4.0V		
						Typ.	Max.	Typ.	Max.	Typ.	Max.	
TO-220FM	RCX700N20	N	200	70	83	30.5	42.7	—	—	—	—	125
	RCX450N20		200	45	69	42	55	—	—	—	—	80
	RCX300N20		200	30	61	60	80	—	—	—	—	60
	RCX200N20		200	20	48	100	130	—	—	—	—	40
	RCX160N20		200	16	43	135	180	—	—	—	—	26
	RCX120N20		200	12	40	250	325	—	—	—	—	15
	RCX081N20		200	8	40	470	770	—	—	—	—	9
	RCX511N25		250	51	84	48	65	—	—	—	—	120
	RCX330N25		250	33	69	77	105	—	—	—	—	80
	RCX220N25		250	22	61	105	140	—	—	—	—	60
	RCX120N25		250	12	48	180	235	—	—	—	—	35
	RCX100N25		250	10	43	245	320	—	—	—	—	26.5
	RCX080N25		250	8	35	460	600	—	—	—	—	15
	RCX051N25		250	5	30	970	1360	—	—	—	—	9
TO-220AB	RX1G18BGN	N	40	180	208	1.17	1.64	1.33	1.87	—	—	168
	☆RX1G08CGN		40	80	78	3.2	4.2	4.0	5.3	—	—	32
	☆RX1L18CGN		60	180	208	1.59	2.15	2.17	3.26	—	—	190
	☆RX1L18BGN		60	180	166	2.00	2.70	2.77	4.16	—	—	139
	☆RX1L16BGN		60	160	125	2.9	4.0	4.1	6.2	—	—	88
	☆RX1L08BGN		60	80	96	5.2	7.2	7.3	10.9	—	—	55
	☆RX1L06BGN		60	60	65.7	9.9	13.5	14.3	21.0	—	—	25
TO-263 (LPT)	<b>New</b> RJ1G12BGN	N	40	120	178	1.38	1.86	1.54	2.08	—	—	165
	<b>New</b> RJ1G08CGN		40	80	78	4.2	5.6	5.0	6.7	—	—	31.1
	☆RJ1L12BGN		60	120	192	2.1	2.9	2.7	4.1	—	—	175
	☆RJ1L12CGN		60	120	166	2.5	3.4	3.2	4.8	—	—	139
	☆RJ1L12DGN		60	120	125	3.9	5.3	5.1	7.7	—	—	88
	☆RJ1L08CGN		60	80	96	5.3	7.0	7.4	10.7	—	—	55
	RSJ650N10		100	65	100	6.5	9.1	—	—	7.0	9.8	260
	RSJ550N10	100	55	100	12.0	16.8	—	—	13.5	18.9	143	
	RSJ400N10	100	40	50	19	27	—	—	21	30	90	
	RSJ301N10	100	30	50	33	46	—	—	36	50	60	
	RSJ151P10	P	-100	-15	50	85	120	95	135	100	140	64
	RSJ250P10		-100	-25	50	45	63	48	67	50	70	60*
	RCJ700N20	N	200	70	297	30.5	42.7	—	—	—	—	125
	RCJ450N20		200	45	211	42	55	—	—	—	—	80
	RCJ300N20		200	30	166	60	80	—	—	—	—	60
	RCJ200N20		200	20	106	100	130	—	—	—	—	40
	RCJ160N20		200	16	85	135	180	—	—	—	—	26
	RCJ120N20		200	12	52	250	325	—	—	—	—	15
	RCJ081N20		200	8	40	550	770	—	—	—	—	9
	RCJ510N25		250	51	304	48	65	—	—	—	—	120
	RCJ330N25		250	33	211	77	105	—	—	—	—	80
	RCJ220N25		250	22	166	105	140	—	—	—	—	60
	RCJ120N25		250	12	107	180	235	—	—	—	—	35
	RCJ100N25		250	10	85	245	320	—	—	—	—	26.5
	RCJ080N25		250	8	55	460	600	—	—	—	—	15
	RCJ050N25		250	5	30	970	1360	—	—	—	—	9

Note: Package is JEDEC code. ( ) : ROHM Packages \* : V<sub>GS</sub>=5V

☆ : Under Development

# Power MOSFETs

Low noise type														
Package	Application	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>b</sub> (A)	P <sub>b</sub> (W) (Tc=25°C)	R <sub>DS(on)</sub> (Ω)		Q <sub>g</sub> Typ. (nC)	Drive Voltage (V)				
							V <sub>GS</sub> =10V		V <sub>GS</sub> =10V					
							Typ.	Max.						
SOT-428 [CPT3 D-PAK] [SC-63]		R6004END		600	4	58	0.900	0.980	15					
		R6002END		600	1.7	26	2.800	3.400	6.5					
TO-252		New R6011END3	N	600	11	124	0.340	0.390	32	10				
		New R6009END3		600	9	94	0.500	0.535	23					
		New R6007END3		600	7	78	0.570	0.620	20					
		☆R6004END3		600	4	59	0.900	0.980	15					
		☆R6511END3		650	11	124	0.360	0.400	32					
		☆R6509END3		650	9	94	0.530	0.585	24					
		☆R6507END3		650	7	78	0.605	0.665	20					
		☆R6504END3		650	4	58	0.955	1.050	15					
		☆R6502END3		650	1.7	24	3.000	3.300	6.5					
		TO-263 (LPT)			R6024ENJ	N	600	24	245		0.150	0.165	70	10
R6020ENJ	600		20		231		0.170	0.196	60					
R6015ENJ	600		15		184		0.260	0.290	40					
R6011ENJ	600		11		124		0.340	0.390	32					
R6009ENJ	600		9		94		0.500	0.535	23					
R6007ENJ	600		7		78		0.570	0.620	20					
R6004ENJ	600		4		58		0.900	0.980	15					
☆R6524ENJ	650		24		245		0.160	0.185	70					
☆R6520ENJ	650		20		231		0.185	0.205	61					
☆R6515ENJ	650		15		184		0.280	0.315	40					
☆R6511ENJ	650		11		124		0.360	0.400	32					
☆R6509ENJ	650		9		94		0.530	0.585	24					
☆R6507ENJ	650		7		78		0.605	0.665	20					
☆R6504ENJ	650		4		58		0.955	1.050	15					
TO-220FM	Switching		R6030ENX		N		600	30	86	0.115	0.130	85	10	
			R6024ENX				600	24	74	0.150	0.165	70		
			R6020ENX				600	20	68	0.170	0.196	60		
			R6015ENX				600	15	60	0.260	0.290	40		
		R6011ENX	600	11		53	0.340	0.390	32					
		R6009ENX	600	9		48	0.500	0.535	23					
		R6007ENX	600	7		46	0.570	0.620	20					
		R6004ENX	600	4		35	0.900	0.980	15					
		☆R6530ENX	650	30		86	0.125	0.140	90					
		☆R6524ENX	650	24		74	0.160	0.185	70					
		☆R6520ENX	650	20		68	0.185	0.205	61					
		☆R6515ENX	650	15		60	0.280	0.315	40					
		☆R6511ENX	650	11		53	0.360	0.400	32					
		☆R6509ENX	650	9		48	0.530	0.585	24					
		☆R6507ENX	650	7		46	0.605	0.665	20					
		☆R6504ENX	650	4		35	0.955	1.050	15					
		TO-3PF		R6035ENZ		N	600	35	102	0.095	0.102	110		10
				R6030ENZ			600	30	86	0.115	0.130	85		
				R6024ENZ			600	24	74	0.150	0.165	70		
				R6020ENZ			600	20	68	0.170	0.196	60		
R6015ENZ	600			15	60		0.260	0.290	40					
☆R6535ENZ	650			35	102		0.098	0.115	113					
☆R6530ENZ	650			30	86		0.125	0.140	90					
☆R6524ENZ	650			24	74		0.160	0.185	70					
☆R6520ENZ	650			20	68		0.185	0.205	61					
☆R6515ENZ	650			15	60		0.280	0.315	40					
TO-247				R6076ENZ1	N		600	76	735	0.038	0.042	260	10	
				R6047ENZ1			600	47	481	0.066	0.072	145		
		R6035ENZ1	600	35		379	0.095	0.102	110					
		R6030ENZ1	600	30		305	0.115	0.130	85					
		R6024ENZ1	600	24		245	0.150	0.165	70					
		R6020ENZ1	600	20		231	0.170	0.196	60					
		☆R6576ENZ1	650	76		735	0.040	0.046	260					
		☆R6547ENZ1	650	47		481	0.070	0.080	145					
		☆R6535ENZ1	650	35		379	0.098	0.115	110					
		☆R6530ENZ1	650	30		305	0.125	0.140	85					
		☆R6524ENZ1	650	24		245	0.160	0.185	70					
		☆R6520ENZ1	650	20		231	0.185	0.205	60					

Note: Package is JEDEC code. ( ) :ROHM Packages, [ ] :JEITA Code

☆ : Under Development

Fast switching type										
Package	Application	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (T <sub>c</sub> =25°C)	R <sub>DS(on)</sub> (Ω)		Q <sub>g</sub> Typ. (nC)	Drive Voltage (V)
							V <sub>GS</sub> =10V			
							Typ.	Max.	V <sub>GS</sub> =10V	
SOT-428 [CPT3 D-PAK] [SC-63]	Switching	R6004KND	N	600	4	58	0.900	0.980	10	10
TO-252		<i>New</i> R6011KND3		600	11	124	0.340	0.390	22	
		☆ R6009KND3		600	9	94	0.500	0.535	16.5	
		<i>New</i> R6007KND3		600	7	78	0.570	0.620	15	
		☆ R6511KND3		650	11	124	0.360	0.400	22	
		☆ R6509KND3		650	9	94	0.530	0.585	16.5	
		☆ R6507KND3		650	7	78	0.605	0.665	15	
		☆ R6504KND3		650	4	58	0.955	1.050	10	
		R6024KNJ		600	24	245	0.150	0.165	46	
		R6020KNJ		600	20	231	0.170	0.196	40	
		R6015KNJ		600	15	184	0.260	0.290	30	
TO-263 (LPT)		R6011KNJ		600	11	124	0.340	0.390	22	
		R6009KNJ		600	9	94	0.500	0.535	16.5	
		R6007KNJ		600	7	78	0.570	0.620	15	
		R6004KNJ		600	4	58	0.900	0.980	10	
		☆ R6524KNJ		650	24	245	0.160	0.185	46	
		☆ R6520KNJ		650	20	231	0.185	0.205	40	
		☆ R6515KNJ		650	15	184	0.280	0.315	30	
		☆ R6511KNJ		650	11	124	0.360	0.400	22	
		☆ R6509KNJ		650	9	94	0.530	0.585	16.5	
		☆ R6507KNJ		650	7	78	0.605	0.665	15	
		☆ R6504KNJ		650	4	58	0.955	1.050	10	
		R6030KNX		600	30	40	0.115	0.130	56	
		R6024KNX		600	24	40	0.150	0.165	46	
		R6020KNX		600	20	50	0.170	0.196	40	
		R6015KNX		600	15	40	0.260	0.290	30	
		R6011KNX		600	11	40	0.340	0.390	22	
		R6009KNX		600	9	40	0.500	0.535	16.5	
		R6007KNX		600	7	40	0.570	0.620	15	
R6004KNX			600	4	40	0.900	0.980	10		
☆ R6530KNX			650	30	86	0.125	0.140	56		
☆ R6524KNX			650	24	74	0.160	0.185	46		
☆ R6520KNX			650	20	68	0.185	0.205	40		
☆ R6515KNX			650	15	60	0.280	0.315	30		
☆ R6511KNX			650	11	53	0.360	0.400	22		
☆ R6509KNX			650	9	48	0.530	0.585	16.5		
☆ R6507KNX			650	7	46	0.605	0.665	15		
☆ R6504KNX			650	4	35	0.955	1.050	10		
TO-220FM		R6035KNZ		600	35	102	0.095	0.102	72	
		R6030KNZ		600	30	86	0.115	0.130	56	
		R6024KNZ		600	24	74	0.150	0.165	46	
		R6020KNZ		600	20	68	0.170	0.196	40	
		R6015KNZ		600	15	60	0.260	0.290	30	
		☆ R6535KNZ		650	35	102	0.098	0.115	72	
		☆ R6530KNZ		650	30	86	0.125	0.140	56	
		☆ R6524KNZ		650	24	74	0.160	0.185	46	
		☆ R6520KNZ		650	20	68	0.185	0.205	40	
		☆ R6515KNZ		650	15	60	0.280	0.315	30	
TO-3PF		☆ R6076KNZ1		600	76	735	0.040	0.042	165	
		☆ R6047KNZ1		600	47	481	0.070	0.072	100	
		R6035KNZ1		600	35	379	0.095	0.102	72	
		R6030KNZ1		600	30	305	0.115	0.130	56	
		R6024KNZ1		600	24	245	0.150	0.165	46	
		R6020KNZ1		600	20	231	0.170	0.196	40	
		☆ R6576KNZ1		650	76	735	0.040	0.046	165	
		☆ R6547KNZ1		650	47	481	0.070	0.080	100	
		☆ R6535KNZ1		650	35	379	0.098	0.115	72	
		☆ R6530KNZ1		650	30	305	0.125	0.140	56	
TO-247		☆ R6524KNZ1		650	24	245	0.160	0.185	45	
		☆ R6520KNZ1		650	20	231	0.185	0.205	40	

Note: Package is JEDEC code. ( ) :ROHM Packages, [ ] :JEITA Code

☆ : Under Development

# Power MOSFETs

Fast Recovery Body Diode type (PrestoMOS™)												
Package	Application	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (T <sub>C</sub> =25°C)	R <sub>DS(on)</sub> (Ω)		Q <sub>g</sub> Typ. (nC)	t <sub>rr</sub> (Typ.) (ns)	Drive Voltage (V)	
							V <sub>GS</sub> =10V		V <sub>GS</sub> =10V			
							Typ.	Max.				
SOT-428 [CPT3 D-PAK] [SC-63]	Switching	R6004FND	N	600	4	20	1.700	2.300	11	60	10	
TO-252		<b>New</b> R6010MND3		600	10	143	0.280	0.380	20	80		
		☆ R6008MND3		600	8	115	0.450	0.610	13.5	65		
TO-263 (LPT)		<b>New</b> R6007MND3		600	7	95	0.540	0.730	10	60		
		R5016FNJ		500	16	16	0.250	0.325	46	100		
		R5011FNJ		500	11	50	0.400	0.520	30	85		
		R5009FNJ		500	9	50	0.650	0.840	18	78		
		R6020FNJ		600	20	50	0.220	0.280	60	105		
		R6015FNJ		600	15	50	0.270	0.350	42	90		
		R6012FNJ		600	12	50	0.390	0.510	35	75		
		R6008FNJ		600	8	50	0.730	0.950	20	67		
		TO-220FM		R5016FNX	500	16	50	0.250	0.325	35		100
				R5011FNX	500	11	50	0.400	0.520	30		85
R5009FNX				500	9	50	0.650	0.840	18	78		
R5007FNX				500	7	50	1.000	1.300	15	70		
<b>New</b> R6030MNX				600	30	90	0.110	0.150	43	90		
☆ R6020MNX				600	20	72	(0.190)	—	(30)	(85)		
R6020FNX				600	20	50	0.190	0.250	65	105		
R6015FNX				600	15	50	0.270	0.350	42	90		
TO-3PF		R6012FNX		600	12	50	0.390	0.510	35	75		
		R6004FNX		600	4	50	1.700	2.300	11	60		
		<b>New</b> R6047MNZ		600	47	102	0.060	0.081	70	105		
		R6046FNZ		600	46	120	0.075	0.093	150	145		
		☆ R6030MNZ		600	30	90	0.110	0.150	43	90		
		R6025FNZ		600	25	150	0.140	0.180	85	120		
TO-247		<b>New</b> R6076MNZ1		600	76	740	0.040	0.055	115	135		
		<b>New</b> R6047MNZ1		600	47	440	0.060	0.081	70	105		
		R6046FNZ1		600	46	120	0.075	0.093	150	143		
		☆ R6030MNZ1		600	30	357	0.110	0.150	43	90		
		R6025FNZ1		600	25	150	0.140	0.180	85	120		

Fast switching type											
Package	Application	Part No.	Polarity (ch)	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>D</sub> (W) (T <sub>C</sub> =25°C)	R <sub>DS(on)</sub> (Ω)		Q <sub>g</sub> Typ. (nC)	Drive Voltage (V)	
							V <sub>GS</sub> =10V		V <sub>GS</sub> =10V		
							Typ.	Max.			
(SOP8)	Switching	SP8K80	N+N	500	0.5	2	9.0	11.7	3.8	10	
SOT-428 [CPT3 D-PAK] [SC-63]		R8002CND	N	800	2	20	3.3	4.3	12.1		
		R8001CND		800	1	20	6.7	8.7	7.2		
TO-252		<b>New</b> R8007AND3		800	7	20	1.2	1.6	28		
TO-220FM		R8010ANX		800	10	40	0.43	0.56	62		
		R8008ANX		800	8	50	0.79	1.03	39		
		R8005ANX		800	5	40	1.60	2.08	21		
		R8002ANX		800	2	35	3.3	4.3	12.7		

Note: Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code

☆ : Under Development

C Transistors



# Selector Guide for Automotive MOSFETs (AEC-Q101 qualified)

Selector Guide for Automotive MOSFETs (AEC-Q101 qualified)																			
Package	Part No.			Polarity	V <sub>DS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS</sub> (V)	R <sub>DS(on)</sub> (mΩ)								Q <sub>g</sub> Typ. (nC)	C <sub>iss</sub> Typ. (pF)		
								V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =2.5V		V <sub>GS</sub> =1.5V				V <sub>GS</sub> =5V	V <sub>GS</sub> =10V
								Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.				
SOT-323 (UMT3) [SC-70] 2021 Size	RJU003N03	FRA	T106	N	30	0.3	±12	—	—	800	1100	1400	1900	—	—	—	24		
	RHU003N03	FRA	T106		30	0.3	±20	800	1200	1200	1900	—	—	—	—	—	20		
	RHU002N06	FRA	T106		60	0.2	±20	1700	2400	2800*3	4000*3	—	—	—	—	2.2*1	15		
	RJU002N06	FRA	T106		60	0.2	±12	—	—	1600	2300	2200	3100	—	—	—	18		
SOT-363 (UMT6) [SC-88] 2021 Size	UM6K31N	FHA	TCN	N+N	60	0.25	±20	1700	2400	2100	3000	3000	12000	—	—	—	15*4		
SOT-346 (SMT3) [SC-59] 2928 Size	RJK005N03	FRA	T146	N	30	0.5	±12	—	—	400	580	650	940	—	—	2*3	60		
	RHK005N03	FRA	T146		30	0.5	±20	350	550	510	720	—	—	—	—	—	45		
	RHK003N06	FRA	T146		60	0.3	±20	700	1000	1100*3	1500*3	—	—	—	—	3*1	33		
SOT-23 (SST3) 2924 Size	New RUC002N05	HZG	T116	N	50	0.2	±8	—	—	1600	2200	1700	2400	2000	4000	—	25		
	RK7002A	FRA	T116		60	0.3	±20	700	1000	1100*3	1500*3	—	—	—	—	3*1	33		
	New RK7002BM	HZG	T116		60	0.25	±20	1700	2400	2100	3000	3000	12000	—	—	—	15		
SOT-323T (TUMT3) [SC-113A] 2021 Size	RUF025N02	FRA	TL	N	20	2.5	±10	—	—	39	54	49	68	80	160	5*2	370		
	RTF025N03	FRA	TL		30	2.5	±12	—	—	48	67	70	98	—	—	3.7*2	270		
	RTF016N05	FRA	TL		45	1.6	±12	—	—	140	190	200	280	—	—	2.3*2	150		
	RSF015N06	FRA	TL		60	1.5	±20	210	290	240	330	—	—	—	—	2	110		
SOT-363T (TUMT6) [SC-113DA] 2021 Size	RUL035N02	FRA	TR	N	20	3.5	±10	—	—	31	43	38	53	66	93	5.7*2	460		
	RTL035N03	FRA	TR		30	3.5	±12	—	—	40	56	56	79	—	—	4.6*2	350		
	RTL020P02	FRA	TR	P	-20	-2	±12	—	—	100	135	180	250	—	—	4.9*2	430		
	RRL035P03	FRA	TR		-30	-3.5	±20	36	50	52	72	—	—	—	—	8	800		
	RRL025P03	FRA	TR		-30	-2.5	±20	55	75	85	115	—	—	—	—	5.2	480		
	RSL020P03	FRA	TR		-30	-2	±20	80	120	125	190	—	—	—	—	3.9	350		
SOT-346T (TSMT3) [SC-96] 2928 Size	RUR040N02	FRA	TL	N	20	4	±10	—	—	25	35	33	46	55	110	8*2	680		
	RTR040N03	FRA	TL		30	4	±12	—	—	34	48	47	66	—	—	5.9*2	475		
	RTR025N03	FRA	TL		30	2.5	±12	—	—	66	92	95	133	—	—	3.3*2	220		
	RSR025N03	FRA	TL		30	2.5	±20	50	70	74	105	—	—	—	—	2.9	165		
	RTR030N05	FRA	TL		45	3	±12	—	—	48	67	68	95	—	—	6.2*2	510		
	RTR025N05	FRA	TL		45	2.5	±12	—	—	95	130	125	175	—	—	3.2*2	250		
	RSR025N05	FRA	TL		45	2.5	±20	70	100	95	150	—	—	—	—	3.6	260		
	RTR020N05	FRA	TL		45	2	±12	—	—	130	180	180	250	—	—	2.9*2	200		
	RSR030N06	FRA	TL		60	3	±20	60	85	70	100	—	—	—	—	5	380		
	RSR020N06	FRA	TL		60	2	±20	120	170	140	195	—	—	—	—	2.7	180		
	RSR010N10	FHA	TL	100	1	±20	370	520	400	560	—	—	—	—	3.5	140*4			
	RTR030P02	FHA	TL	-20	-3	±12	—	—	55	75	90	125	—	—	9.3*2	840			
	RTR025P02	FRA	TL	-20	-2.5	±12	—	—	70	95	115	160	—	—	7*2	630			
	RTR020P02	FRA	TL	-20	-2	±12	—	—	100	135	180	250	—	—	4.9*2	430			
	RRR040P03	FRA	TL	-30	-4	±20	32	45	45	63	—	—	—	—	10.5	1000			
	RRR030P03	FRA	TL	-30	-3	±20	55	75	85	115	—	—	—	—	5.2	480			
	RSR025P03	FRA	TL	-30	-2.5	±20	70	98	100	140	—	—	—	—	5.4	460			
	RSR020P05	FRA	TL	-45	-2	±20	130	190	180	260	—	—	—	—	4.5*2	500			
	RSR015P06	FRA	TL	-60	-1.5	±20	200	280	240	340	—	—	—	—	10*1	500			
	SOT-457T (TSMT6) [SC-95] 2928 Size	RUQ050N02	FRA	TR	N	20	5	±10	—	—	22	30	27	38	40	80	12*2	900	
RTQ045N03		FRA	TR	30		4.5	±12	—	—	30	43	42	60	—	—	7.6*2	540		
RSQ045N03		FRA	TR	30		4.5	±20	27	38	36	51	—	—	—	—	6.8	520		
RTQ035N03		FRA	TR	30		3.5	±12	—	—	38	54	55	77	—	—	4.6*2	285		
RSQ035N03		FRA	TR	30		3.5	±20	44	62	60	84	—	—	—	—	5.3	290		
RSQ020N03		FRA	TR	30		2	±20	96	134	148	207	—	—	—	—	2.2	110		
RVQ040N05		FRA	TR	45		4	±21	38	53	47	66	—	—	—	—	6.3	530		
RTQ020N05		FRA	TR	45		2	±12	—	—	140	190	200	280	—	—	2.3*2	150		
RSQ035N06		FRA	TR	60		3.5	±20	50	70	58	82	—	—	—	—	6.5	430		
RSQ015N06		FRA	TR	60		1.5	±20	210	290	240	330	—	—	—	—	2	110		
QS6K1		FRA	TR	N+N	30	1	±12	—	—	170	238	260	364	—	—	1.7*2	77		
QS6K21		FRA	TR		45	1	±12	—	—	300	420	415	585	—	—	1.5*2	95		
RTQ035P02		FHA	TR	P	-20	-3.5	±12	—	—	50	65	80	100	—	—	10.5*2	1200		
RTQ025P02		FRA	TR		-20	-2.5	±12	—	—	72	100	140	190	—	—	6.4*2	580		
RRQ045P03		FRA	TR		-30	-4.5	±20	25	35	34	48	—	—	—	—	14	1350		
RSQ035P03		FRA	TR		-30	-3.5	±20	45	65	65	90	—	—	—	—	9.2	780		
RRQ030P03		FRA	TR		-30	-3	±20	55	75	85	115	—	—	—	—	5.2	480		
RSQ025P03		FRA	TR		-30	-2.5	±20	80	110	120	165	—	—	—	—	4.4	320		
RSQ015P10	FRA	TR	-100		-1.5	±20	350	470	380	510	—	—	—	—	17	950*4			
RQ1C075UN	FRA	TR	N		20	7.5	±10	—	—	11	16	14	20	20	40	18*2	1400		
QS8K2	FRA	TR	N+N		30	3.5	±12	—	—	38	54	55	77	—	—	4.6*2	285		
RQ1A070ZP	FRA	TR	P		-12	-7	±10	—	—	8	12	11	16	19	38	58*2	7400*5		
RQ1E070RP	FRA	TR		-30	-7	±20	12	17	17	24	—	—	—	—	26	2700			
RQ1E050RP	FRA	TR		-30	-5	±20	22	31	32	45	—	—	—	—	13	1300			
QS8J4	FRA	TR		P+P	-30	-4	±20	40	56	55	77	—	—	—	—	8.4	800		
SOT-363T (TSMT8) 3028 Size	QS8M51	FRA	TR	N+P	100	2	±20	240	325	250	340	—	—	—	—	4.7	290*4		
					-100	-1.5	±20	350	470	380	510	—	—	—	—	17	950*4		


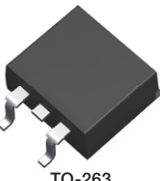
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code \*1 V<sub>GS</sub>=10V \*2 V<sub>GS</sub>=4.5V \*3 V<sub>GS</sub>=4.0V \*4 V<sub>GS</sub>=25V \*5 V<sub>GS</sub>=6V

# Selector Guide for Automotive Power MOSFETs (AEC-Q101 qualified)

Selector Guide for Automotive Power MOSFETs (AEC-Q101)																
Package	Part No.			Polarity	V <sub>BS</sub> (V)	I <sub>B</sub> (A)	V <sub>GS</sub> (V)	R <sub>DS(on)</sub> (mΩ)						Q <sub>g</sub> Typ. (nC)	C <sub>iss</sub> Typ. (pF)	
								V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =2.5V				V <sub>GS</sub> =5V
								Typ.	Max.	Typ.	Max.	Typ.	Max.			
<p>SOT-89 (MPT3) [SC-62] 4540 Size</p>	RHP030N03	FRA	T100	N	30	3	±20	90	120	160*2	210*2	—	—	6.5*1	160	
	RJP020N06	FRA	T100		60	2	±12	—	—	165	240	210	300	5*2	160	
	RHP020N06	FRA	T100		60	2	±20	150	200	200	280	—	—	7*1	140	
<p>(SOP8) 5060 Size</p>	RSS130N03	FRA	TB	N	30	13	±20	5.9	8.3	7.4	10.4	—	—	25	2000	
	RSS100N03	FRA	TB		30	10	±20	9.5	13.3	12.5	17.5	—	—	14	1070	
	RSS090N03	FRA	TB		30	9	±20	11	16	15	22	—	—	11	810	
	RSS095N05	FRA	TB		45	9.5	±20	11	16	14	20	—	—	18.9	1830	
	RSS085N05	FRA	TB		45	8.5	±20	13	18	16	23	—	—	15.3	1500	
	RSS070N05	FRA	TB		45	7	±20	18	25	23	32	—	—	12	1000	
	RSS065N06	FRA	TB		60	6.5	±20	24	37	28	44	—	—	11	900	
	SP8K3	FRA	TB	N+N	30	7	±20	17	24	23	33	—	—	8.4	600	
	SP8K2	FRA	TB		30	6	±20	21	30	30	42	—	—	7.2	520	
	SP8K1	FRA	TB		30	5	±20	36	51	52	73	—	—	3.9	230	
	SP8K5	FRA	TB		30	3.5	±20	59	83	93	130	—	—	2.5	140	
	SP8K24	FRA	TB		45	6	±20	18	25	24	34	—	—	15.4	1400	
	SP8K23	FRA	TB		45	5	±20	26	36	33	46	—	—	8.6	700	
	SP8K22	FRA	TB		45	4.5	±20	33	46	41	57	—	—	6.8	550	
	SP8K33	FRA	TB		60	5	±20	34	48	38	54	—	—	8	620	
	SP8K32	FRA	TB		60	4.5	±20	46	65	52	73	—	—	7	500	
	SP8K31	FRA	TB		60	3.5	±20	85	120	100	140	—	—	3.7	250	
	SP8K52	FRA	TB		100	3	±20	120	170	130	180	—	—	8.5	610*3	
	RRS140P03	FRA	TB		P	-30	-14	±20	5	7	6.7	9.4	—	—	80	8000
	RRS100P03	FRA	TB			-30	-10	±20	9	12.6	12.5	17.5	—	—	39	3600
	RRS090P03	FRA	TB			-30	-9	±20	11	15.4	15	21	—	—	30	3000
	RRS075P03	FRA	TB	-30		-7.5	±20	15	21	22	31	—	—	21	1900	
	RRS050P03	FRA	TB	-30		-5	±20	36	50	52	72	—	—	9.2	850	
	RRS040P03	FRA	TB	-30		-4	±20	55	75	85	115	—	—	5.2	480	
	RSS070P05	FRA	TB	-45		-7	±20	19	27	25	35	—	—	34	4100	
	RSS060P05	FRA	TB	-45	-6	±20	26	36	35	49	—	—	23	2700		
	SP8J66	FRA	TB	P+P	-30	-9	±20	13.5	18.5	17.5	23.6	—	—	35	3000	
	SP8J5	FRA	TB		-30	-7	±20	20	28	25	35	—	—	25	2600	
	SP8M3	FRA	TB	N+P	30	5	±20	36	51	52	73	—	—	3.9	230	
	SP8M4	FRA	TB		-30	-4.5	±20	40	56	57	80	—	—	8.5	850	
					30	9	±20	12	18	16	24	—	—	15	1190	
	SP8M5	FRA	TB		-30	-7	±20	20	28	25	35	—	—	25	2600	
					30	6	±20	21	30	30	42	—	—	7.2	520	
	SP8M6	FRA	TB		-30	-7	±20	20	28	25	35	—	—	25	2600	
					30	5	±20	36	51	52	73	—	—	3.9	230	
	SP8M8	FRA	TB		-30	-3.5	±20	65	90	100	140	—	—	5.5	490	
30					6	±20	21	30	30	42	—	—	7.2	520		
SP8M10	FRA	TB	-30		-4.5	±20	40	56	57	80	—	—	8.5	850		
			30		7	±20	17	25	23	35	—	—	8.4	600		
SP8M21	FRA	TB	-30		-4.5	±20	40	56	57	80	—	—	8.5	850		
			45		6	±20	18	25	24	34	—	—	15.4	1400		
SP8M24	FRA	TB	-45		-4	±20	33	46	43	60	—	—	20	2400		
			45		4.5	±20	33	46	41	57	—	—	6.8	550		
SP8M41	FRA	TB	-45		-3.5	±20	45	63	60	84	—	—	13	1700		
			80		3.4	±20	90	130	110	150	—	—	6.6	600		
SP8M51	FRA	TB	-80	-2.6	±20	165	240	220	300	—	—	8.2	1000			
			100	3	±20	120	170	130	180	—	—	8.5	610*3			
				-100	-2.5	±20	210	290	230	320	—	—	12.5	1550*3		

Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code \*1 V<sub>GS</sub>=10V \*2 V<sub>GS</sub>=4.0V \*3 V<sub>GS</sub>=25V




# Selector Guide for Automotive Power MOSFETs (AEC-Q101 qualified)

Selector Guide for Automotive Power MOSFETs (AEC-Q101 qualified)													
Package	Part No.		Polarity	V <sub>DSS</sub> (V)	I <sub>b</sub> (A)	V <sub>GS</sub> (V)	R <sub>DS(on)</sub> (mΩ)				Q <sub>g</sub> Typ. (nC)	C <sub>iss</sub> Typ. (pF)	
							V <sub>GS</sub> =10V		V <sub>GS</sub> =4.5V		V <sub>GS</sub> =10V	V <sub>DS</sub> =10V	
							Typ.	Max.	Typ.	Max.			
 SOT-428 (CPT3 D-PAK) [SC-63]	RSD200N05	FRA	TL	N	45	20	±20	20	28	25	35	12*1	950
	RSD221N06	FRA	TL	N	60	22	±20	18	26	21	30	30	1500
	RSD150N06	FRA	TL	N	60	15	±20	28	40	33	47	18	930
	RSD080N06	FRA	TL	N	60	8	±20	57	80	70	98	9.4	380
	RSD050N06	FRA	TL	N	60	5	±20	78	109	94	131	8	290
	RSD201N10	FRA	TL	N	100	20	±20	33	46	36*3	50*3	55	2100*2
	RSD175N10	FRA	TL	N	100	17.5	±20	75	105	80	112	24	950*2
	RSD100N10	FRA	TL	N	100	10	±20	95	133	100	140	18	700*2
	RSD050N10	FRA	TL	N	100	5	±20	135	190	142	200	14	530*2
	☆RD1T030AM	FRG	TL	N	200	3	±30	620	870	—	—	6.7	270*2
	RD1U080AA	FRG	TL	N	250	8	±30	225	300	—	—	25	1440*2
	RD1U041AA	FRG	TL	N	250	4	±30	930	1300	—	—	8.5	350*2
	☆R5207PND	FRA	TL	N	525	7	±30	780	1000	—	—	13	500*2
	New R5205PND	FRA	TL	N	525	5	±25	1300	1600	—	—	10.8	320*2
	New R6006PND	FRA	TL	N	600	6	±30	900	1200	—	—	15	460*2
	New R6004PND	FRA	TL	N	600	4	±25	1400	1800	—	—	11	280*2
	R8002CND	HZG	TL	N	800	2	±30	3300	4300	—	—	12.1	240*2
	R8001CND	HZG	TL	N	800	1	±30	6700	8700	—	—	7.2	60*2
	RSD160P05	FRA	TL	P	-45	-16	±20	35	50	45	63	16*1	2000
	RSD080P05	FRA	TL	P	-45	-8	±20	65	91	95	133	9*1	1000
	RSD046P05	FRA	TL	P	-45	-4.5	±20	110	155	160	225	12*1	550
	RSD140P06	FRA	TL	P	-60	-14	±20	60	84	73	103	27	1900
RSD131P10	FRA	TL	P	-100	-13	±20	135	200	150	220	40	2400*2	
 TO-263 (LPT)	RSJ451N04	FRA	TL	N	40	45	±20	9.5	13.5	—	—	43	2400*2
	RSJ400N06	FRA	TL	N	60	40	±20	11	16	—	—	52	2400
	RSJ650N10	FRA	TL	N	100	65	±20	6.5	9.1	7.0*3	9.8*3	260	10780*2
	RSJ550N10	FRA	TL	N	100	55	±20	12.0	16.8	13.5*3	18.9*3	143	6150*2
	RSJ400N10	FRA	TL	N	100	40	±20	19	27	21*3	30*3	90	3600*2
	RSJ301N10	FRA	TL	N	100	30	±20	33	46	36*3	50*3	60	2100*2
	☆RJ1T700AA	FRG	TL	N	200	70	±30	30.5	42.7	—	—	125	6900*2
	☆RJ1U510AA	FRG	TL	N	250	51	±30	48	65	—	—	120	7000*2
	New RJ1U330AA	FRG	TL	N	250	33	±30	77	105	—	—	80	4500*2
	New R6020PNJ	FRG	TL	N	600	20	±30	190	250	—	—	65	2040*2
	☆R6015PNJ	FRG	TL	N	600	15	±30	230	300	—	—	50	1700*2
	☆R6012PNJ	FRG	TL	N	600	12	±30	320	420	—	—	35	1300*2
	☆R6010PNJ	FRG	TL	N	600	10	±30	430	560	—	—	27	980*2
	☆R6008PNJ	FRG	TL	N	600	8	±30	600	800	—	—	21	680*2
	☆R8008ANJ	FRG	TL	N	800	8	±30	790	1030	—	—	38	1100*2
	☆R8005ANJ	FRG	TL	N	800	5	±30	1600	2100	—	—	20	500*2
	☆R8002ANJ	FRG	TL	N	800	2	±30	3300	4300	—	—	13	250*2
	RSJ250P10	FRA	TL	P	-100	-25	±20	45	63	48	67	60*1	8000*2




Note: Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code \*1:V<sub>GS</sub>=5V \*2:V<sub>DS</sub>=25V \*3:V<sub>GS</sub>=4.0V

☆ : Under Development



# Bipolar Transistors

General Purpose Amplification Bipolar Transistors (Flat Type)										
Package	SOT-723 (VMT3) [SC-105AA] 1212 Size		SOT-416FL (EMT3F) [SC-89] 1616 Size		SOT-323FL (UMT3F) [SC-85] 2021 Size		$V_{CEO}$ (V)	$I_C$ (A)	$h_{FE}^{*2}$	Automotive Grade Available (AEC-Q101)
	Application	 $P_D=0.15W$ *1		 $P_D=0.15W$ *1		 $P_D=0.2W$ *1				
	PNP	NPN	PNP	NPN	PNP	NPN				
General Purpose Amplification	2SAR522M	2SCR522M	2SAR522EB	2SCR522EB	2SAR522UB	2SCR522UB	20	0.2	120 to 560	—
	2SAR523M	2SCR523M	2SAR523EB	2SCR523EB	2SAR523UB	2SCR523UB	50	0.1	120 to 560	—
Low $V_{CE}$ (sat)	2SA2029	2SC5658	2SA1774EB	2SC4617EB	2SA1576UB	2SC4081UB	50	0.15	120 to 560	Yes
	2SA2030	2SC5663	—	—	—	—	12	0.5	270 to 680	—
Driver	—	2SD2696	—	—	—	—	30	0.4	270 to 680	—
Driver	—	—	2SAR502EB	2SCR502EB	2SAR502UB	2SCR502UB	30	0.5	200 to 500	—

Notes : 1. \*1 With reference land installed 2. \*2 For  $h_{FE}$ , please see the technical specifications.  
Notes : PNP (-) symbol omitted.  
Notes : Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code

General Purpose Amplification Bipolar Transistors (Gull Type)										
Package	SOT-416 (EMT3) [SC-75A] 1616 Size		SOT-323 (UMT3) [SC-70] 2021 Size		SOT-346 (SMT3) [SC-59] 2928 Size		$V_{CEO}$ (V)	$I_C$ (A)	$h_{FE}^{*2}$	Automotive Grade Available (AEC-Q101)
	Application	 $P_D=0.15W$ *1		 $P_D=0.2W$ *1		 $P_D=0.2W$ *1				
	PNP	NPN	PNP	NPN	PNP	NPN				
General Purpose Amplification	2SA1774	2SC4617	2SA1576A	2SC4081	2SA1037AK	2SC2412K	50	0.15	120 to 560	Yes
Low $V_{CE}$ (sat)	2SA2018	2SC5585	—	—	2SA2119K	—	12	0.5	270 to 680	—
	—	—	—	—	—	2SD1757K	15	0.5	120 to 560	—
	—	—	—	—	2SB1590K	2SD2444K	15	1	120 to 270 180 to 390	—
	—	—	2SB1689	2SD2652	—	—	12	1.5	270 to 680	—
	—	—	—	—	2SB1690K	2SD2653K	12	2	270 to 680	—
	—	—	2SB1694	2SD2656	—	—	30	1	270 to 680	Yes
Driver	—	—	2SA1577	2SC4097	2SA1036K	2SC2411K	32	0.5	120 to 390	Only SOT-346 Yes
	—	—	—	—	2SB1197K	2SD1781K	32	0.8	120 to 390	Yes
	—	—	—	2SD1949	—	2SD1484K	50	0.5	120 to 390	Only SOT-346 Yes
	—	—	—	—	2SB1198K	2SD1782K	80	0.5	120 to 390	Yes
High speed Switching	—	—	2SA2088	2SC5876	—	—	60	0.5	120 to 270 120 to 390	Yes
High Voltage	—	—	2SA1579	2SC4102	2SA1514K	2SC3906K	120	0.05	180 to 560	Yes
	—	—	—	—	—	2SC4061K	300	0.1	56 to 120	—

Notes : 1. \*1 With reference land installed 2. \*2 For  $h_{FE}$ , please see the technical specifications.  
Notes : PNP (-) symbol omitted.  
Notes : Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code

Bipolar Transistors For Oversea Customer										
Package	SOT-323 (UMT3) [SC-70] 2021 Size		SOT-23 (SST3) 2924 Size		$V_{CEO}$ (V)	$I_C$ (A)	$h_{FE}^{*2}$	Automotive Grade Available (AEC-Q101)		
	Application	 $P_D=0.2W$ *1		 $P_D=0.2W$ *1						
	PNP	NPN	PNP	NPN						
General Purpose Amplification	BC858BW	BC848BW	BC858B	BC848B	30	0.1	200 to 450	Only SOT-23 Yes		
Driver	—	—	BC857B	BC847B	45	0.1	200 to 450	Yes		
	—	—	BCX17	BCX19	45	0.5	100 to 600	Yes		
Switching	—	—	SSTA56	SSTA06	80	0.5	100 or more	Yes		
	UMT3906	UMT3904	SST3906	SST3904	40	0.2	100 to 300	Only SOT-23 Yes		
	—	—	SST4403	SST4401	40	0.6	100 to 300	Yes		
	—	UMT2222A	—	SST2222A	40	0.6	100 to 300	Only SOT-23 Yes		
Darlington*3	UMT2907A	—	SST2907A	—	60	0.6	100 to 300	Only SOT-23 Yes		
Darlington*3	—	—	—	SSTA28	80 ( $V_{CES}$ )	0.3	10k or more	—		

Notes : 1. \*1 With reference land installed 2. \*2 For  $h_{FE}$ , please see the technical specifications. 3. \*3 For internal circuit, please see the technical specifications.  
Notes : PNP (-) symbol omitted.  
Notes : Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code



High $h_{FE}$ /Muting Bipolar Transistors												
Package	SOT-723 (VMT3) [SC-105AA] 1212 Size		SOT-416 (EMT3) [SC-75A] 1616 Size		SOT-323 (UMT3) [SC-70] 2021 Size		SOT-346 (SMT3) [SC-59] 2928 Size		$V_{CE0}$ (V)	$I_C$ (A)	$h_{FE}^{*2}$	Automotive Grade Available (AEC-Q101)
	Application	PNP	NPN	PNP	NPN	PNP	NPN	PNP				
High $h_{FE}$	—	—	—	—	—	—	—	—	25 ( $V_{EBO}$ )	0.3	820 to 2700	—
	—	—	—	—	—	—	—	—	20	0.5	820 to 2700	—
Muting	—	2SD2707	—	2SD2654	—	2SD2351	—	2SD2226K	50	0.15	820 to 2700	—
	—	—	—	—	—	—	—	2SD2142K	30	0.3	5k or more	—
Darlington <sup>*3</sup>	—	—	—	—	—	—	—	2SB852K	32 ( $V_{CES}$ )	0.3	5k or more	—
	—	—	—	—	—	—	—	2SD1383K	32 ( $V_{CES}$ )	0.3	5k or more	—

Notes : 1. \*1 With reference land installed 2. \*2 For  $h_{FE}$ , please see the technical specifications. 3. \*3 For internal circuit, please see the technical specifications.  
 Notes : PNP (-) symbol omitted.  
 Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

High Frequency Bipolar Transistors												
Package	SOT-723 (VMT3) [SC-105AA] 1212 Size		SOT-416 (EMT3) [SC-75A] 1616 Size		SOT-323 (UMT3) [SC-70] 2021 Size		SOT-346 (SMT3) [SC-59] 2928 Size		$V_{CE0}$ (V)	$I_C$ (A)	$h_{FE}^{*2}$	Automotive Grade Available (AEC-Q101)
	Application	PNP	NPN	PNP	NPN	PNP	NPN	PNP				
High Frequency	—	2SC5659	—	2SC4618	—	2SC4098	—	2SC2413K	25	0.05	82 to 180 ( $f_T=300MHz$ )	—
	—	—	—	—	—	2SC4774	—	2SC4713K	6	0.05	180 to 560 ( $f_T=800MHz$ )	—
	—	2SC5661	—	2SC4725	—	2SC4082	—	2SC3837K	20	0.05	82 to 180 ( $f_T=1500MHz$ )	—
	—	2SC5662	—	2SC4726	—	2SC4083	—	2SC3838K	11	0.05	56 to 180 ( $f_T=3200MHz$ )	—

Notes : 1.\*1 With reference land installed 2.\*2 For  $h_{FE}$ , please see the technical specifications.  
 Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

Low saturation/Driver Transistors												
Package	SOT-323T/SOT-363T (TUMT3/TUMT6) [SC-113A/SC-113DA] 2021 Size				SOT-346T/SOT-457T (TSMT3/TSMT6) [SC-96/SC-95] 2928 Size				$V_{CE0}$ (V)	$I_C$ (A)	$h_{FE}^{*2}$	Automotive Grade Available (AEC-Q101)
	Application	PNP	NPN	PNP	NPN	PNP	NPN	PNP				
Low $V_{CE}$ (sat)	—	2SB1732	2SD2702	2SB1709	2SD2674	12	1.5	270 to 680	—			
	—	2SB1730	2SD2700	2SB1690	2SD2653	12	2	270 to 680	—			
	—	US6T4 <sup>*3</sup>	US6X3 <sup>*3</sup>	2SB1705	2SD2670	12	3	270 to 680	—			
	—	—	—	2SB1707	2SD2672	12	4	270 to 680	—			
	—	—	—	QST2 <sup>*3</sup>	QSX1 <sup>*3</sup>	12	6	270 to 680	—			
	—	2SB1733	2SD2703	2SB1710	2SD2675	30	1	270 to 680	—			
	—	2SB1731	2SD2701	2SB1695	2SD2657	30	1.5	270 to 680	—			
	—	US6T5 <sup>*3</sup>	US6X4 <sup>*3</sup>	2SB1706	2SD2671	30	2	270 to 680	—			
	—	—	—	2SB1708	2SD2673	30	3	270 to 680	—			
	—	—	—	QST3 <sup>*3</sup>	QSX2 <sup>*3</sup>	30	5	270 to 680	—			
Driver	—	—	—	2SAR512R	2SCR512R	30	2	200 to 500	—			
	—	—	—	2SAR513R	2SCR513R	50	1	180 to 450	—			
	—	—	—	2SAR553R	2SCR553R	50	2	180 to 450	—			
	—	—	—	2SAR543R	2SCR543R	50	3	180 to 450	—			
	—	—	—	2SAR514R	2SCR514R	80	0.7	120 to 390	—			
	—	—	—	2SAR554R	2SCR554R	80	1.5	120 to 390	—			
	—	—	—	2SAR544R	2SCR544R	80	2.5	120 to 390	—			
	—	—	—	2SAR340Q <sup>*3</sup>	2SCR341Q <sup>*3</sup>	400	0.1	82 to 270	—			
High speed Switching	—	—	2SA2094	2SC5866	60	2	120 to 270/ 120 to 390	—				

Notes : 1.\*1 With reference land installed 2.\*2 For  $h_{FE}$ , please see the technical specifications. 3.\*3 6pin package(TSMT6/TUMT6) For internal circuit, please see the technical specifications.  
 Notes : PNP (-) symbol omitted.  
 Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

# Bipolar Transistors

Power Bipolar Transistors												
Package	DFN2020-3S (HUML2020L3) 2020 Size		SOT-89 (MPT3) [SC-62] 4540 Size		SOT-428 (CPT3 DPAK) [SC-63]		TO-252		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> *3	Automotive Grade Available (AEC-Q101)
	Application	*1 P <sub>D</sub> =0.5W		*1 P <sub>D</sub> =0.5W		*2 P <sub>D</sub> =10W		*2 P <sub>D</sub> =10W				
Polarity	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN				
Driver	—	—	2SB1697	2SD2661	—	—	—	—	12	2	270 to 680	—
	—	—	2SAR293P	2SCR293P	—	—	—	—	30	1	270 to 680	Yes
	—	—	2SAR293P5	2SCR293P5	—	—	—	—	30	1	270 to 680	—
	—	—	2SAR512P	2SCR512P	—	—	—	—	30	2	200 to 500	Yes
	—	—	New 2SAR512P5	New 2SCR512P5	—	—	—	—	30	2	200 to 500	—
	—	—	2SAR552P	2SCR552P	—	—	—	—	30	3	200 to 500	Yes
	—	—	New 2SAR552P5	New 2SCR552P5	—	—	—	—	30	3	200 to 500	—
	2SAR542F3	New 2SCR542F3	—	—	—	—	—	—	30	3	200 to 500	—
	—	—	2SAR542P	2SCR542P	2SAR572D	2SCR572D	—	—	30	5	200 to 500	Yes
	—	—	—	—	—	—	☆2SAR572D3	☆2SCR572D3	30	5	200 to 500	—
	New 2SAR562F3	New 2SCR562F3	—	—	—	—	—	—	30	6	200 to 500	—
	—	—	2SAR513P	2SCR513P	—	—	—	—	50	1	180 to 450	Yes
	—	—	New 2SAR513P5	New 2SCR513P5	—	—	—	—	50	1	180 to 450	—
	—	—	2SAR553P	2SCR553P	—	—	—	—	50	2	180 to 450	Yes
	—	—	New 2SAR553P5	New 2SCR553P5	—	—	—	—	50	2	180 to 450	—
	—	—	2SAR533P	2SCR533P	—	—	—	—	50	3	180 to 450	Yes
	—	—	New 2SAR533P5	New 2SCR533P5	—	—	—	—	50	3	180 to 450	—
	—	—	—	—	2SAR573D	2SCR573D	—	—	50	3	180 to 450	Yes
	—	—	—	—	—	—	☆2SAR573D3	☆2SCR573D3	50	3	180 to 450	—
	—	—	2SB1561	2SD2391	—	—	—	—	60	2	120 to 270	—
	—	—	2SAR514P	2SCR514P	—	—	—	—	80	0.7	120 to 390	Yes
	—	—	New 2SAR514P5	New 2SCR514P5	—	—	—	—	80	0.7	120 to 390	—
	—	—	2SAR554P	2SCR554P	—	—	—	—	80	1.5	120 to 390	Yes
	—	—	New 2SAR554P5	New 2SCR554P5	—	—	—	—	80	1.5	120 to 390	—
	—	—	—	—	2SAR574D	2SCR574D	—	—	80	2	120 to 390	Yes
	—	—	—	—	—	—	☆2SAR574D3	☆2SCR574D3	80	2	120 to 390	—
	—	—	2SAR544P	2SCR544P	—	—	—	—	80	2.5	120 to 390	Yes
	—	—	New 2SAR544P5	New 2SCR544P5	—	—	—	—	80	2.5	120 to 390	—
—	—	—	—	New 2SAR586D	New 2SCR586D	☆2SAR586D3	☆2SCR586D3	80	5	120 to 390	—	
—	—	—	2SCR372P	—	—	—	—	120	0.7	120 to 390	Yes	
—	—	—	New 2SCR372P5	—	—	—	—	120	0.7	120 to 390	—	
—	—	—	2SCR375P	—	—	—	—	120	1.5	120 to 390	Yes	
—	—	—	New 2SCR375P5	—	—	—	—	120	1.5	120 to 390	—	
—	—	—	—	2SB1275	2SD1918	—	—	160	1.5	82 to 180 120 to 270	—	
—	—	2SAR340P	2SCR346P	—	—	—	—	400	0.1	82 to 270	—	
High speed Switching	—	—	2SA2071	—	—	—	—	60	3	120 to 270/ 120 to 390	—	
	—	—	2SA2071P5	2SC5824	—	—	—	—	60	3	120 to 270/ 120 to 390	—
High h <sub>FE</sub>	—	—	—	2SD2537	—	—	—	25	1.2	820 to 1800	—	
	—	—	2SB1427	—	—	—	—	20	2	390 to 820	—	
	—	—	—	2SD2153	—	—	—	25	2	820 to 1800	—	
Darlington*4	—	—	—	2SD1834	—	—	—	60 (V <sub>CES</sub> )	1	2k to	—	
	—	—	—	—	—	2SD2143	—	60±10	2	1k to 10k	—	
	—	—	—	—	2SB1316	2SD1980	—	—	100	2	1k to 10k	—

Notes : 1.\*1 With reference land installed 2.\*2 T<sub>C</sub>=25°C 3.\*3 For h<sub>FE</sub>, please see the technical specifications. 4.\*4 For internal circuit, please see the technical specifications. ☆ : Under Development  
Notes : PNP (-) symbol omitted.  
Notes : Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code

# Complex Bipolar Transistors

General Purpose Amplification Bipolar Transistors											
Configuration	Package	Item	(VMT6) [SC-105B] 1212 Size	SOT-553/SOT-563 (EMT5/EMT6) [SC-107BB/SC-107C] 1616 Size	SOT-353/SOT-363 (UMT5/UMT6) [SC-88A/SC-88] 2021 Size	SOT-25/SOT-457 (SMT5/SMT6) [SC-74A/SC-74] 2928 Size	Equivalent Element Transistors	V <sub>CEO</sub> (V)	I <sub>c</sub> (A)	h <sub>FE</sub>	Automotive Grade Available (AEC-Q101)
			Application	Equivalent Circuit Diagram(TOP View)	Part No.						
PNP × 2	Pre Amp.		VT6T1	EMT51	—	—	2SAR522EB×2	-20	-0.2	120 to 560	—
			VT6T2	EMT52	—	—	2SAR523EB×2	-50	-0.1	120 to 560	—
			—	EMT1	UMT1N	IMT1A	2SA1037AK×2	-50	-0.15	120 to 560	Yes
			—	EMT18	UMT18N	IMT18	2SA2018×2	-12	-0.5	270 to 680	—
NPN×2	Pre Amp.		VT6X1	EMX51	—	—	2SCR522EB×2	20	0.2	120 to 560	—
			VT6X2	EMX52	—	—	2SCR523EB×2	50	0.1	120 to 560	—
			—	EMX1	UMX1N	IMX1	2SC2412K×2	50	0.15	120 to 560	Yes
			—	EMX26	—	—	2SD2654×2	50	0.15	820 to 2700	—
			—	EMX18	UMX18N	—	2SC5585×2	12	0.5	270 to 680	—
			—	—	—	IMX25	2SD2704K×2	20	0.3	820 to 2700	—
PNP + NPN	Amplifier		—	EMY1	UMY1N	FMY1A	2SA1037AK 2SC2412K	-50 50	-0.15 0.15	120 to 560 120 to 560	—
	Pre Amp.		VT6Z1	EMZ51	—	—	2SAR522EB 2SCR522EB	-20 20	-0.2 0.2	120 to 560 120 to 560	—
			VT6Z2	EMZ52	—	—	2SAR523EB 2SCR523EB	-50 50	-0.1 0.1	120 to 560 120 to 560	—
			—	EMZ1	UMZ1N	IMZ1A	2SA1037AK 2SC2412K	-50 50	-0.15 0.15	120 to 560 120 to 560	Yes
			—	EMZ7	—	—	2SA2018 2SC5585	-12 12	-0.5 0.5	270 to 680 270 to 680	—
			—	EMZ8	—	—	2SA2018 2SC2412K	-12 50	-0.5 0.15	270 to 680 120 to 560	—

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

Bipolar Transistors For Current Mirror Circuit										
Configuration	Package	Item	(VMT6) [SC-105B] 1212 Size	Equivalent Element Transistors	V <sub>CEO</sub> (V)	I <sub>c</sub> (A)	h <sub>FE</sub>	h <sub>FE</sub> RATIO	Automotive Grade Available (AEC-Q101)	
			Application							Equivalent Circuit Diagram(TOP View)
PNP × 2	Suitable for current mirror circuit		VT6T11	2SAR522M×2	-20	-0.2	120 to 560	±10%	—	
			VT6T12	2SAR523M×2	-50	-0.1	120 to 560		—	
NPN×2	Suitable for current mirror circuit		VT6X11	2SCR522M×2	20	0.2	120 to 560		—	
			VT6X12	2SCR523M×2	50	0.1	120 to 560		—	

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : ( ) :ROHM Packages , [ ] :JEITA Code

# Complex Bipolar Transistors

For Power Supply Circuit									
Configuration	Package	Item	SOT-553/SOT-563 (EMT5/EMT6) [SC-107BB/SC-107C] 1616 Size	SOT-323/SOT-363 (UMT5/UMT6) [SC-88A/SC-88] 2021 Size	Equivalent Element Transistors	V <sub>CEO</sub> (V)	I <sub>c</sub> (mA)	h <sub>FE</sub>	Automotive Grade Available (AEC-Q101)
	Application	Equivalent Circuit Diagram(TOP View)		Part No.					
PNP + DTR	Power Management		EMF5	UMF5N	2SA2018 DTC144E	-12 50	-500 100	270 to 680 68 or more	—
			—	UMF28N	2SA1774 DTC124X	-50 50	-150 100	180 to 390 68 or more	—
PNP + Di	DC-DC Converter		—	UML1N	2SA1774 DAN202K	-50 80	-150 100	120 to 560 —	—
			—	UML4N	2SA2018 RB521S-30	-12 30	-500 200	270 to 680 —	—
—			UML2N	2SC4617 DAN202K	50 80	150 100	120 to 560 —	—	
—			UML6N	2SC5585 RB521S-30	12 30	500 200	270 to 680 —	—	
NPN + Di	Shunt Regulator		EML22	UML23N	2SC2412K VDZ6.8B	50 V <sub>Z</sub> =6.8	150 I <sub>Z</sub> =5	120 to 390 —	—

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

Bipolar Transistors for Driver									
Configuration	Package	Item	SOT-363T (TUMT6) [SC-113DA] 2021 Size	SOT-25T/SOT-457T (TSMT5/TSMT6) [ — /SC-95] 2928 Size	Equivalent Element Transistors	V <sub>CEO</sub> (V)	I <sub>c</sub> (A)	h <sub>FE</sub>	Automotive Grade Available (AEC-Q101)
	Application	Equivalent Circuit Diagram(TOP View)		Part No.					
PNP×2	Driver		US6T8	QST8	2SB1709×2	-12	-1.5	270 to 680	—
			US6T9	QST9	2SB1710×2	-30	-1	270 to 680	—
NPN×2	Driver		US6X7	QSX7	2SD2674×2	12	1.5	270 to 680	—
			US6X8	QSX8	2SD2675×2	30	1	270 to 680	—
	DC-DC Converter		—	QS5W1	—	30	3	200 to 500	—
			—	QS5W2	2SCR533P×2	50	3	180 to 450	—
PNP + NPN	Pre Amp.		—	QS6Z5	2SAR513P 2SCR513P	-50 50	-1 1	180 to 450 180 to 450	—
PNP + NPN	DC-DC Converter		—	QSZ2	2SB1695 2SD2657	-30 30	-1.5 1.5	270 to 680 270 to 680	—
			—	QS5Y1	—	-30 30	-3 3	200 to 500 200 to 500	—
			—	QSZ4	2SB1706 2SD2671	-30 30	-2 2	270 to 680 270 to 680	—
			—	QS5Y2	2SAR533P 2SCR533P	-50 50	-3 3	180 to 450 180 to 450	—

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

# Digital Transistors

100mA Digital Transistors (For Automotive use)															
Specifications	Part No.		R1 (kΩ)	R2 (kΩ)	Package							V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>O</sub> (I <sub>C</sub> ) (A)	G <sub>I</sub> (h <sub>FE</sub> )	Automotive Grade Available (AEC-Q101)
	PNP	NPN			SOT-723 (VMT3) [SC-105AA] 1212 Size	SOT-416FL (EMT3F) [SC-89] 1616 Size	SOT-416 (UMT3) [SC-75A] 1616 Size	SOT-323FL (UMT3F) [SC-85] 2021 Size	SOT-323 (UMT3) [SC-70] 2021 Size	SOT-23 (SST3) 2924 Size	SOT-346 (SMT3) [SC-59] 2928 Size				
	P <sub>D</sub> =150mW					P <sub>D</sub> =200mW									
R1=R2 Potential Divider Type	DTA123ExA	DTC123ExA	2.2	2.2	●	☆●	●	☆●	●	●	●	●	0.1	20 or more	Yes
	DTA143ExA	DTC143ExA	4.7	4.7	●	●	●	●	●	●	●	●	0.1	30 or more	Yes
	DTA114ExA	DTC114ExA	10	10	●	●	●	●	●	●	●	●	0.05	30 or more	Yes
	DTA124ExA	DTC124ExA	22	22	●	●	●	●	●	●	●	●	0.03	56 or more	Yes
	DTA144ExA	DTC144ExA	47	47	●	●	●	●	●	●	●	●	0.03	68 or more	Yes
	DTA115ExA	DTC115ExA	100	100	●	●	●	●	●	●	●	●	0.02	82 or more	Yes
R1≠R2 Leak Absorption Type	DTA113ZxA	DTC113ZxA	1	10	☆●	☆●	●	☆●	●	●	●	●	0.1	33 or more	Yes
	DTA123YxA	DTC123YxA	2.2	10	☆●	●	●	☆●	●	●	●	●	0.1	33 or more	Yes
	DTA123JxA	DTC123JxA	2.2	47	●	●	●	●	●	●	●	●	0.1	80 or more	Yes
	DTA143XxA	DTC143XxA	4.7	10	●	●	●	●	●	●	●	●	0.1	30 or more	Yes
	DTA143ZxA	DTC143ZxA	4.7	47	●	●	●	●	●	●	●	●	0.1	80 or more	Yes
	DTA114YxA	DTC114YxA	10	47	●	●	●	●	●	●	●	●	0.07	68 or more	Yes
Type using R1 alone as input Resistor	DTA143TxA	DTC143TxA	4.7	—	●	●	●	●	●	●	●	●	0.1	100 to 600	Yes
	DTA114TxA	DTC114TxA	10	—	●	●	●	●	●	●	●	●	0.1	100 to 600	Yes
x : Packaging designation symbol					M	EB	E	UB	U	C	K				

Notes : 1. VMT3, EMT3F, EMT3 and UMT3F without suffix A. 2. PNP (-) symbol omitted.  
Notes : Package is JEDEC code. ( ):ROHM Packages, [ ]:JEITA Code

☆ : Under Development

100mA Digital Transistors (For Consumer only)													
Specifications	Part No.		R1 (kΩ)	R2 (kΩ)	Package			V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>O</sub> (I <sub>C</sub> ) (A)	G <sub>I</sub> (h <sub>FE</sub> )	Automotive Grade Available (AEC-Q101)		
	PNP	NPN			SOT-723 (VMT3) [SC-105AA] 1212 Size	SOT-416FL (EMT3F) [SC-89] 1616 Size	SOT-323FL (UMT3F) [SC-85] 2021 Size						
	P <sub>D</sub> =150mW					P <sub>D</sub> =200mW							
R1=R2 Potential Divider Type	DTA023Ex	DTC023Ex	2.2	2.2	●	●	●	50	0.1	20 or more	—		
	DTA043Ex	DTC043Ex	4.7	4.7	●	●	●		0.1	20 or more	—		
	DTA014Ex	DTC014Ex	10	10	●	●	●		0.05	35 or more	—		
	DTA044Ex	DTC044Ex	47	47	●	●	●		0.03	80 or more	—		
	DTA024Ex	DTC024Ex	22	22	●	●	●		0.03	60 or more	—		
	DTA015Ex	DTC015Ex	100	100	●	●	●		0.02	80 or more	—		
R1≠R2 Leak Absorption Type	DTA013Zx	DTC013Zx	1	10	●	●	●	0.1	30 or more	—			
	DTA023Yx	DTC023Yx	2.2	10	●	●	●	0.1	35 or more	—			
	DTA023Jx	DTC023Jx	2.2	47	●	●	●	0.1	80 or more	—			
	DTA043Xx	DTC043Xx	4.7	10	●	●	●	0.1	35 or more	—			
	DTA043Zx	DTC043Zx	4.7	47	●	●	●	0.1	80 or more	—			
	DTA014Yx	DTC014Yx	10	47	●	●	●	0.07	80 or more	—			
Type using R1 alone as input Resistor	DTA024Xx	DTC024Xx	22	47	●	●	●	0.05	80 or more	—			
	DTA043Tx	DTC043Tx	4.7	—	●	●	●	0.1	100 to 600	—			
	DTA014Tx	DTC014Tx	10	—	●	●	●	0.1	100 to 600	—			
	DTA044Tx	DTC044Tx	47	—	●	●	●	0.06	100 to 600	—			
DTA015Tx	DTC015Tx	100	—	●	●	●	0.1	100 to 600	—				
x : Packaging designation symbol					M	EB	UB						

Notes : PNP (-) symbol omitted.  
Notes : Package is JEDEC code. ( ):ROHM Packages, [ ]:JEITA Code

C  
Transistors

# Digital Transistors

500mA Digital Transistors												
Specifications	Item	Part No.		R1 (kΩ)	R2 (kΩ)	Package			V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	GI (h <sub>FE</sub> )	Automotive Grade Available (AEC-Q101)
		PNP	NPN			SOT-323 (UMT3) [SC-70] 2021 Size	SOT-23 (SST3) 2924 Size	SOT-346 (SMT3) [SC-59] 2928 Size				
						P <sub>D</sub> =200mW						
R1=R2 Potential Divider Type	DTB113Ex	DTD113Ex	1	1	☆●	●	●	50	0.5	33 or more	Yes	
	DTB123Ex	DTD123Ex	2.2	2.2	☆●	●	●			39 or more	Yes	
	DTB143Ex	DTD143Ex	4.7	4.7	☆●	●	●			47 or more	Yes	
	DTB114Ex	DTD114Ex	10	10	☆●	●	●			56 or more	Yes	
R1≠R2 Leak Absorption Type	DTB113Zx	DTD113Zx	1	10	☆●	●	●	50	0.5	56 or more	Yes	
	DTB123Yx	DTD123Yx	2.2	10	☆●	●	●			56 or more	Yes	
Type using R2 alone as Bleeder Resistor	DTB114Gx	DTD114Gx	—	10	☆●	●	●	40		56 or more	Yes	
Type using R1 alone as input Resistor	DTB123Tx	DTD123Tx	2.2	—	☆●	●	●			100 to 600	Yes	
x : Packaging designation symbol						U	C	K				

Notes : PNP (-) symbol omitted. Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code ☆ : Under Development

12V / 500mA Digital Transistors											
Specifications	Item	Part No.		R1 (kΩ)	R2 (kΩ)	Package		V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	GI (h <sub>FE</sub> )	Automotive Grade Available (AEC-Q101)
		PNP	NPN			SOT-723 (VMT3) [SC-105AA] 1212 Size	SOT-416 (EMT3) [SC-75A] 1616 Size				
						P <sub>D</sub> =150mW					
R1=R2 Potential Divider Type	DTB543Ex	DTD543Ex	4.7	4.7	●	●	12	0.5	115 or more	—	
R1≠R2 Leak Absorption Type	DTB513Zx	DTD513Zx	1	10	●	●			140 or more	—	
	DTB523Yx	DTD523Yx	2.2	10	●	●			140 or more	—	
	DTB543Xx	DTD543Xx	4.7	10	●	●			140 or more	—	
	DTB543Zx	DTD543Zx	4.7	47	●	●	140 or more	—			
x : Packaging designation symbol						M	E				

Notes : PNP (-) symbol omitted. Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

Muting Digital Transistors												
Specifications	Item	Part No.		R1 (kΩ)	R2 (kΩ)	Package			V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	GI (h <sub>FE</sub> )	Automotive Grade Available (AEC-Q101)
		PNP	NPN			SOT-323FL (UMT3F) [SC-85] 2021 Size	SOT-323 (UMT3) [SC-70] 2021 Size	SOT-346 (SMT3) [SC-59] 2928 Size				
		—										
						P <sub>D</sub> =200mW						
Type using R1 alone as input Resistor	—	DTC614Tx	10	—	—	●	●	20	0.6	820 to 2700	—	
	—	DTC623Tx	2.2	—	—	●	●			820 to 2700	—	
	—	DTC643Tx	4.7	—	—	●	●			820 to 2700	—	
	—	DTC923TUB	2.2	—	●	—	—	40 (V <sub>EB0</sub> )	0.4	820 to 2700	—	
	—	DTC943TUB	4.7	—	●	—	—			820 to 2700	—	
—	DTC914TUB	10	—	●	—	—	820 to 2700			—		
x : Packaging designation symbol						UB	U	K				

Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

Power Digital Transistors											
Specifications	Item	Part No.		R1 (kΩ)	R2 (kΩ)	Package		V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	G <sub>I</sub> (h <sub>FE</sub> )	Automotive Grade Available (AEC-Q101)
		PNP	NPN			SOT-89 (MPT3) [SC-62] 4540 Size					
						P <sub>D</sub> =500mW					
Driver	—	<b>DTDG23YP*</b>	2.2	10				60±10	1	300 or more	Yes
	—	<b>DTDG14GP*</b>	—	10						300 or more	Yes

Notes : \*For internal circuit, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

## Complex Digital Transistors

100mA Complex Digital Transistors(Including Automotive use)										
Configuration	Equivalent Circuit Diagram (TOP View)	SOT-563 (EMT6) [SC-107C] 1616 Size	SOT-363 (UMT6) [SC-88] 2021 Size	SOT-457 (SMT6) [SC-74] 2928 Size	Equivalent Element Transistors	R1 (kΩ)	R2 (kΩ)	V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	Automotive Grade Available (AEC-Q101)
		Part No.								
PNP × 2		<b>EMB10</b>	<b>UMB10N</b>	<b>IMB10A</b>	DTA123J×2	2.2	47	50	0.1	Yes
		<b>EMB11</b>	<b>UMB11N</b>	<b>IMB11A</b>	DTA114E×2	10	10		0.05	Yes
		<b>EMB2</b>	<b>UMB2N</b>	<b>IMB2A</b>	DTA144E×2	47	47		0.03	Yes
		<b>EMB3</b>	<b>UMB3N</b>	<b>IMB3A</b>	DTA143T×2	4.7	—		0.1	Yes
NPN × 2		<b>EMB4</b>	<b>UMB4N</b>	—	DTA114T×2	10	—		0.1	Yes
		<b>EMH10</b>	<b>UMH10N</b>	—	DTC123J×2	2.2	47		0.1	Yes
		<b>EMH25</b>	☆ <b>UMH25N</b>	—	DTC143Z×2	4.7	47		0.1	Yes
		<b>EMH11</b>	<b>UMH11N</b>	<b>IMH11A</b>	DTC114E×2	10	10		0.05	Yes
		<b>EMH9</b>	<b>UMH9N</b>	<b>IMH9A</b>	DTC114Y×2	10	47		0.07	Yes
		<b>EMH1</b>	<b>UMH1N</b>	<b>IMH1A</b>	DTC124E×2	22	22		0.03	Yes
		<b>EMH2</b>	<b>UMH2N</b>	<b>IMH2A</b>	DTC144E×2	47	47		0.03	Yes
		<b>EMH3</b>	<b>UMH3N</b>	<b>IMH3A</b>	DTC143T×2	4.7	—		0.1	Yes
PNP+NPN complimentary		<b>EMD22</b>	<b>UMD22N</b>	—	DTA143Z DTC143Z	4.7 4.7	47 47	0.1	Yes	
		<b>EMD3</b>	<b>UMD3N</b>	<b>IMD3A</b>	DTA114E DTC114E	10 10	10 10	0.05	Yes	
		<b>EMD9</b>	<b>UMD9N</b>	<b>IMD9A</b>	DTA114Y DTC114Y	10 10	47 47	0.07	Yes	
		<b>EMD2</b>	<b>UMD2N</b>	<b>IMD2A</b>	DTA124E DTC124E	22 22	22 22	0.03	Yes	
		<b>EMD12</b>	<b>UMD12N</b>	—	DTA144E DTC144E	47 47	47 47	0.03	Yes	
		<b>EMD6</b>	<b>UMD6N</b>	<b>IMD6A</b>	DTA143T DTC143T	4.7 4.7	— —	0.1	Yes	
		PNP+NPN different type	<b>EMD38</b>	—	—	DTA113Z DTC114Y	1 10	10 47	0.1 0.07	Yes
<b>EMD5</b>	<b>UMD5N</b>		—	DTA143X DTC144E	4.7 47	10 47	0.1 0.03	Yes		
<b>EMD4</b>	<b>UMD4N</b>		—	DTA114Y DTC144E	10 47	47 47	0.1 0.03	Yes		

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

☆ : Under Development

C  
Transistors

# Complex Digital Transistors

100mA Complex Digital Transistors (For Consumer only) 1										
Configuration	Equivalent Circuit Diagram (TOP View)	SOT-563 (EMT6) [SC-107C] 1616 Size			Equivalent Element Transistors	R1 (kΩ)	R2 (kΩ)	V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	Automotive Grade Available (AEC-Q101)
		Part No.								
PNP ×2		EMB60			DTA023J×2	2.2	47	50	0.1	—
		EMB75			DTA043Z×2	4.7	47		0.1	—
		EMB59			DTA014Y×2	10	47		0.07	—
		EMB61			DTA014E×2	10	10		0.05	—
		EMB51			DTA024E×2	22	22		0.03	—
		EMB52			DTA044E×2	47	47		0.03	—
NPN ×2		EMB53			DTA043T×2	4.7	—		0.1	—
		EMH60			DTC023J×2	2.2	47		0.1	—
		EMH75			DTC043Z×2	4.7	47		0.1	—
		EMH61			DTC014E×2	10	10		0.05	—
		EMH59			DTC014Y×2	10	47		0.07	—
		EMH51			DTC024E×2	22	22		0.03	—
PNP+NPN complimentary		EMH52			DTC044E×2	47	47	0.03	—	
		EMH53			DTC043T×2	4.7	—	0.1	—	
		EMD72			DTA043Z DTC043Z	4.7 4.7	47 47	0.1	—	
		EMD53			DTA014E DTC014E	10 10	10 10	0.05	—	
		EMD59			DTA014Y DTC014Y	10 10	47 47	0.07	—	
		EMD52			DTA024E DTC024E	22 22	22 22	0.03	—	
EMD62			DTA044E DTC044E	47 47	47 47	0.03	—			

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code

100mA Complex Digital Transistors (For Consumer only) 2										
Configuration	Equivalent Circuit Diagram (TOP View)	SOT-553 (EMT5) [SC-107BB] 1616 Size	SOT-353 (UMT5) [SC-88A] 2021 Size	SOT-25 (SMT5) [SC-74A] 2928 Size	Equivalent Element Transistors	R1 (kΩ)	R2 (kΩ)	V <sub>CC</sub> (V <sub>CE0</sub> ) (V)	I <sub>o</sub> (I <sub>c</sub> ) (A)	Automotive Grade Available (AEC-Q101)
		Part No.								
PNP ×2		EMA5	UMA5N	FMA5A	DTA123J×2	2.2	47	50	0.1	—
		—	UMA9N	FMA9A	DTA114E×2	10	10		0.05	—
		—	UMA1N	FMA1A	DTA124E×2	22	22		0.03	—
		EMA2	UMA2N	FMA2A	DTA144E×2	47	47		0.03	—
		EMA3	UMA3N	FMA3A	DTA143T×2	4.7	—		0.1	—
		EMA4	UMA4N	FMA4A	DTA114T×2	10	—		0.1	—
NPN ×2		EMG11	UMG11N	—	DTC123J×2	2.2	47		0.1	—
		EMG8	UMG8N	—	DTC143Z×2	4.7	47		0.1	—
		EMG9	UMG9N	FMG9A	DTC114E×2	10	10		0.05	—
		EMG5	UMG5N	—	DTC114Y×2	10	47		0.07	—
		EMG1	UMG1N	FMG1A	DTC124E×2	22	22		0.03	—
		EMG2	UMG2N	FMG2A	DTC144E×2	47	47		0.03	—
		EMG3	UMG3N	FMG3A	DTC143T×2	4.7	—	0.1	—	
		EMG4	UMG4N	FMG4A	DTC114T×2	10	—	0.1	—	
EMG6	UMG6N	FMG6A	DTC144T×2	47	—	0.1	—			

Notes : For No.1 Pin location, please see the technical specifications.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ] :JEITA Code



For Power management, Muting and Driver											
Configuration	Equivalent Circuit Diagram (TOP View)	SOT-563 (EMT6) [SC-107C] 1616 Size	SOT-363 (UMT6) [SC-88] 2021 Size	SOT-457 (SMT6) [SC-74] 2928 Size	SOT-363T (TUMT6) [SC-113DA] 2021 Size	SOT-457T (TSMT6) [SC-95] 2928 Size	Equivalent Element Transistors	R1 (kΩ)	R2 (kΩ)	Automotive Grade Available (AEC-Q101)	
		Part No.									
PNP+NPN Power management		EMD29	—	—	—	—	DTB513Z DTC114E	1 10	10 10	—	
		—	—	IMD10A	—	—	-50V/-0.5A DTC114T	0.1 10	10 —	—	
		—	—	IMD16A	—	—	-50V/-0.5A DTC115T	2.2 100	22 —	—	
NPN ×2 muting		—	—	IMH23	US6H23	—	DTC643T×2	4.7	—	—	
		—	—	IMH21	—	—	DTC614T×2	10	—	—	
		—	UMH33N	—	—	—	DTC923TUB×2	2.2	—	—	
		—	UMH32N	—	—	—	DTC943TUB×2	4.7	—	—	
		—	UMH37N	—	—	—	DTC914TUB×2	10	—	—	
NPN ×2 Driver		—	—	—	—	—	QSH29	60±10V/500mA ×2	—	10	—

No.1 Pin is located on the upper right of equivalent circuit diagram for (EMT6) and SOT-363 (UMT6) packages.  
No.1 Pin is located on the lower right of equivalent circuit diagram for SOT-457 (SMT6) packages.  
Notes : Package is JEDEC code. ( ) :ROHM Packages , [ ]:JEITA Code

## IC Transistor Array

\*The following products are belonging to ICs. (Refer P.A20) Please ask IC product group for inquiry.

Transistor Array											
Part No.	Number of Bit	Output Withstand Voltage (V)	Output Saturation Voltage (V)	Output Current (mA)	Input Resistance (kΩ)	Input/Output Relation	Input Active Level	Output Current Relation	Circuit Construction	Features	Package
BA12003B	7	60	1.46*	500	2.7	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	DIP16
BA12003BF	7	60	1.46*	500	2.7	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	SOP16
BA12004B	7	60	1.46*	500	10.5	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	DIP16
BA12004BF	7	60	1.46*	500	10.5	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	SOP16

\* Output Current=350mA

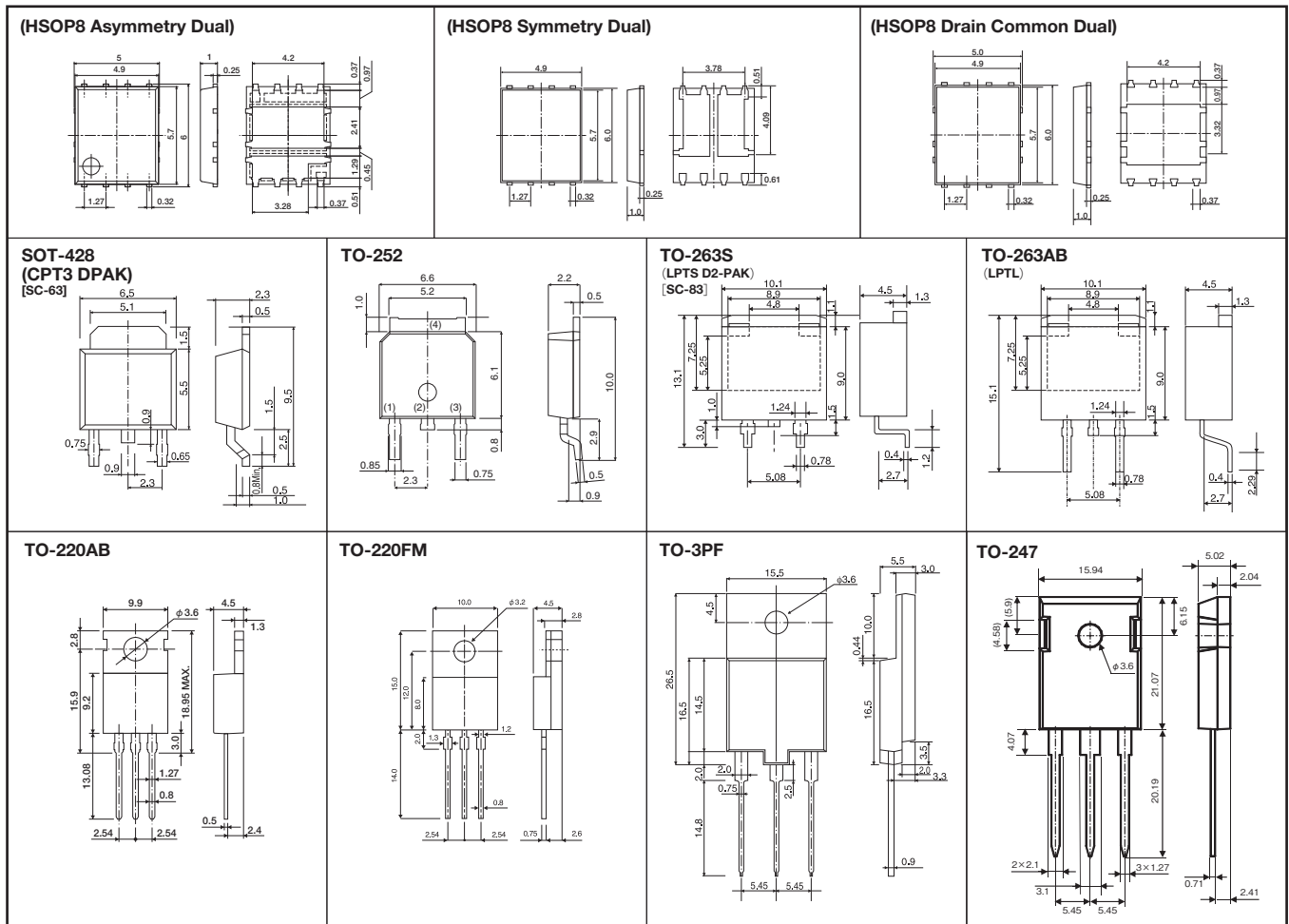
# Packages

## ● Dimensions (Unit : mm)

<b>DFN0604-3 (VML0604)</b> 	<b>DFN0806-3 (VML0806)</b> 	<b>DFN1006-3 (VML1006) [SC-101]</b> 	<b>SOT-723 (VMT3) [SC-105AA]</b> 	<b>(VMT6) [SC-105B]</b> 	<b>SOT-416FL (EMT3F) [SC-89]</b> 	<b>SOT-416 (EMT3) [SC-75A]</b> 	<b>SOT-553 (EMT5) [SC-107BB]</b> 
<b>SOT-563 (EMT6) [SC-107C]</b> 	<b>SOT-323FL (UMT3F) [SC-85]</b> 	<b>SOT-323 (UMT3) [SC-70]</b> 	<b>SOT-353 (UMT5) [SC-88A]</b> 	<b>SOT-363 (UMT6) [SC-88]</b> 			
<b>SOT-23 (SST3)</b> 	<b>SOT-346 (SMT3) [SC-59]</b> 	<b>SOT-25 (SMT5) [SC-74A]</b> 	<b>SOT-457 (SMT6) [SC-74]</b> 	<b>(TSST8)</b> 			
<b>SOT-323T (TUMT3) [SC-113A]</b> 	<b>SOT-353T (TUMT5) [SC-113CA]</b> 	<b>SOT-363T (TUMT6) [SC-113DA]</b> 	<b>SOT-563T (WEMT6) [SC-120]</b> 	<b>SOT-346T (TSMT3) [SC-96]</b> 	<b>SOT-25T (TSMT5)</b> 		
<b>SOT-457T (TSMT6) [SC-95]</b> 	<b>(TSMT8)</b> 	<b>DFN2020-3S (HUML2020L3)</b> 	<b>DFN2020-8S (HUML2020L8 Single)</b> 	<b>DFN2020-8D (HUML2020L8 Dual)</b> 			
<b>(HSMT8)</b> 	<b>(HSML3030L10)</b> 	<b>SOT-89 (MPT3) [SC-62]</b> 					
<b>(SOP8)</b> 	<b>(HSOP8 Single)</b> 						

Notes : 1. Package is JEDEC code. ( ) : ROHM Packages, [ ] : JEITA Code 2. For details of dimensions, please refer to the technical specifications.

C Transistors



Note: 1. Package is JEDEC code. ( ):ROHM Packages, [ ]:JEITA Code 2. For details of dimensions, please refer to technical specifications.

# Part No. Explanation

## • MOSFET Part No. Explanation

### <Single-Chip Type>

Example: **R T Q 0 3 5 P 0 2 T R**

ROHM

Drive Voltage

Type of MOSFET	Drive Voltage (V)				
	0.9/1.2/1.5/1.8	2.5	4	4.5	10
Low loss type	—	—	C	—	C
General use type	Z,U,Y	T	D,R,S,X	—	—
High ESD resistance type	—	J	H	—	—
Stripe	A	—	—	—	—

$I_D$  (Unit: 100mA)  
ex.)  
035=3500mA (3.5A)

Polarity

N	Nch
P	Pch

Package

Symbol	Package
M	SOT-723
U	SOT-323
F	SOT-323T
L	SOT-363T
C	SOT-23
K	SOT-346
R	SOT-346T
Q	SOT-457T
P	SOT-89
H	(SOP8)
S	(SOP8)
D	SOT-428
J	TO-263AB
X	TO-220FM

$V_{DS}$

Symbol	$V_{DS}(V)$
01	12
02	20
03	30
04	40
05	45
06	60
10	100
19	190
20	200
25	250

### <Single-Chip Type>

Example: **R T 1 A 0 4 0 Z P T L**

ROHM

Package

Symbol	Package
V3	DFN0604-3
V1	DFN0806-3
V2	DFN1006-3
E1	SOT-416FL
U1	SOT-323FL
W1	SOT-563T
T1	(TSST8)
F5	SOT-323T
F6	SOT-363T
Q5	SOT-346T
Q6	SOT-457T
Q1	(TSMT8)
Q7	(TSMT8)
F4	DFN2020-6S
F6	SOT-363T
Q3	(HSMT8)
S3	(SOP8)
S1	(HSOP8)
D1	SOT-428
D3	TO-252
X1	TO-220AB
J1	TO-263S

$V_{DS}$  (V)  
A=12V  
C=20V  
E=30V  
G=40V  
H=45V  
T=200V  
U=250V  
J=50V  
L=60V

$I_D$  (A)  
ex.)  
040=4A  
013=1.3A

Drive Voltage

Symbol	Process	Pol.	Drive Voltage	comment
SN	Gen.1	Nch	2.5V/4.0V	—
UN	Gen.1	Nch	1.2V/1.5V	—
YN	Gen.1	Nch	0.9V	—
MN	Gen.3	Nch	4.5V	High Performance
BN	Gen.4	Nch	4.5V	—
AD	Gen.4	Nch	4.5V	Built-in ESD protection
GN	Gen.4	Nch	4.5V	High Performance
AJ	Gen.5	Nch	2.5V	—
SP	Gen.1	Pch	2.5V/4.0V	—
RP	Gen.2	Pch	4.0V	—
ZP	Gen.2	Pch	1.2V/1.5V	—
AP	Gen.4	Pch	1.5V	—
BC	Gen.5	Pch	2.5V	—
AT	Gen.4	Pch	4.5V	—
AA	Gen.1	Nch	10V	for Automotive
AM	Gen.1	Nch	10V	Built-in ESD protection

### <Dual-Chip Type>

Example: **S H 8 M 3 ( ) T B**

Package

Symbol	Package
VT6	(VMT6)
EM6	SOT-563
UM6	SOT-363
ES6	SOT-563T
US5	SOT-353T
US6	SOT-363T
TT8	(TSST8)
QS5	SOT-25T
QS6	SOT-457T
QH6	SOT-457T
QS8	(TSMT8)
QH8	(TSMT8)
UT6	DFN2020-8D
HS8	(HSM13030L10)
SH8	(SOP8)
SP8	(SOP8)
HP8	(HSOP8)

Polarity

K	Nch+Nch
J	Pch+Pch
M	Nch+Pch
U	MOS+SBD
S	Nch+Nch+SBD

Serial No. (include alphabets)  
Note) "N" is put to UMT5 & UMT6 packages

### <Single-Chip Type>

Example: **R 6 0 2 0 E N X**

ROHM

$V_{DS}$  (V)  
60=600V

$I_D$  (A)  
20=20A

Polarity  
N=Nch

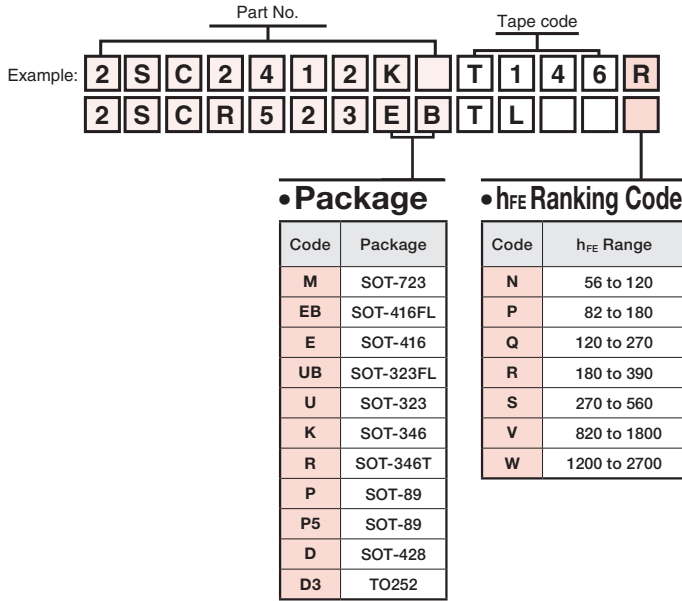
Package

Symbol	Package
D	SOT-428
J	TO-263AB
X	TO-220FM
Z	TO-3PF
Z1	TO-247
D3	TO-252

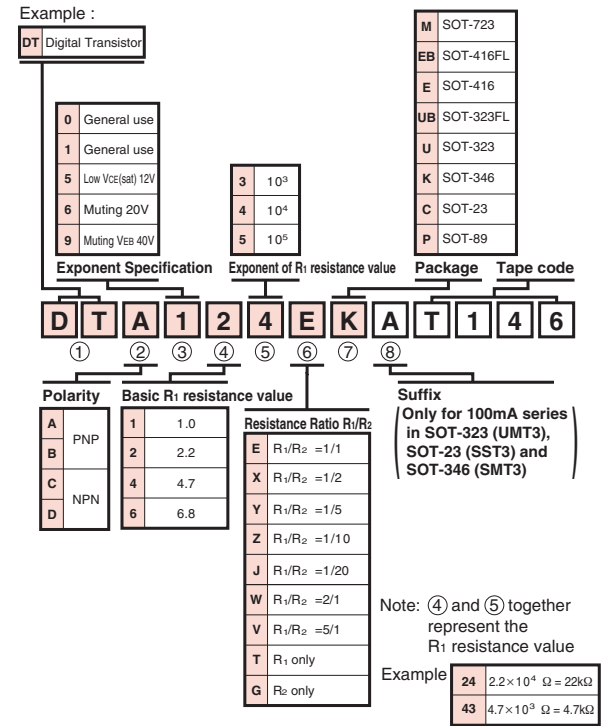
A=No G-S protection diode  
C=With G-S protection diode  
E=Low noise  
F,M=Fast recovery body diode  
K=Fast switching

Notes : Package is JEDEC code. ( ):ROHM Packages

**Bipolar Transistor Part No. Explanation**



**Digital Transistor Part No. Explanation**



**Packaging type**

Package	Code	Packaging Style	Direction	Basic Ordering Unit (pcs)
DFN0604-3 (VML0604)	T2L,T2CL	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	8,000
DFN0806-3 (VML0806)	T2L,T2CL	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	8,000
DFN1006-3 (VML1006)	T2L,T2CL	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	8,000
SOT-723 (VMT3)	T2L,T2CL	Embossed tape	One terminal on sprocket hole side	8,000
(VMT6)	T2R,T2CR	Embossed tape	Terminal No.1 on sprocket hole side	8,000
SOT-416FL (EMT3F)	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-416 (EMT3)	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-553 (EMT5)	T2R,T2CR	Embossed tape	Three terminals on sprocket hole side	8,000
SOT-563 (EMT6)	T2R,T2CR	Embossed tape	Terminal No.1 on sprocket hole side	8,000
SOT-323FL (UMT3F)	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-323 (UMT3)	T106,T306	Embossed tape	One terminal on sprocket hole side	3,000
SOT-353 (UMT5)	TR,TCR	Embossed tape	Three terminals on sprocket hole side	3,000
SOT-363 (UMT6)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
	TN,TCN	Embossed tape	Non-direction	3,000
SOT-563T (WEMT6)	T2R,T2CR	Embossed tape	Terminal No.1 on sprocket hole side	8,000
SOT-323T (TUMT3)	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-353T (TUMT5)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-363T (TUMT6)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-23 (SST3)	T116,T316	Embossed tape	One terminal on sprocket hole side	3,000
SOT-346 (SMT3)	T146	Embossed tape	One terminal on sprocket hole side	3,000
SOT-25 (SMT5)	T148	Embossed tape	Three terminals on sprocket hole side	3,000
SOT-457 (SMT6)	T108	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	3,000
	T110	Embossed tape	Non-direction	3,000
(TSST8)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-346T (TSMT3)	TL,TCL	Embossed tape	One terminal on sprocket hole side	3,000
SOT-25T (TSMT5)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
SOT-457T (TSMT6)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
(TSMT8)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
DFN2020-3S (HUML2020L3)	TL,TCR	Embossed tape	Terminal No.1 on opposite side from sprocket hole side	3,000
DFN2020-8 (HUML2020L8)	TR,TCR	Embossed tape	Terminal No.1 on sprocket hole side	3,000
(HSMT8)	TB	Embossed tape	Terminal No.1 on sprocket hole side	3,000
(HSML3030L10)	TB	Embossed tape	Terminal No.1 on sprocket hole side	3,000
(SOP8)	TB	Embossed tape	Terminal No.1 on sprocket hole side	2,500
SOT-89 (MPT3)	T100	Embossed tape	Three terminals on sprocket hole side	1,000
(HSOP8)	TB	Embossed tape	Three terminals on sprocket hole side	2,500
SOT-428(CPT3)	TL	Embossed tape	Fin on sprocket hole side	2,500
TO-252	TL	Embossed tape	Fin on sprocket hole side	2,500
TO-263(LPT)	TL	Embossed tape	Fin on sprocket hole side	1,000
	TLL	Embossed tape	Fin on sprocket hole side	1,000
TO-220FM	-	Bulk	-	500
TO-220AB	C10	Tube	-	1,000
TO-3PF	C8	Tube	-	360
TO-247	C9	Tube	-	450

Notes : Package is JEDEC code. ( ) :ROHM Packages

