

# Renesas Transistors/Thyristors/Triacs Status List

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# New-Generation Power MOS FET: Low Loss MOS FET "JET" (10th Gen.)

Contact:  
PW

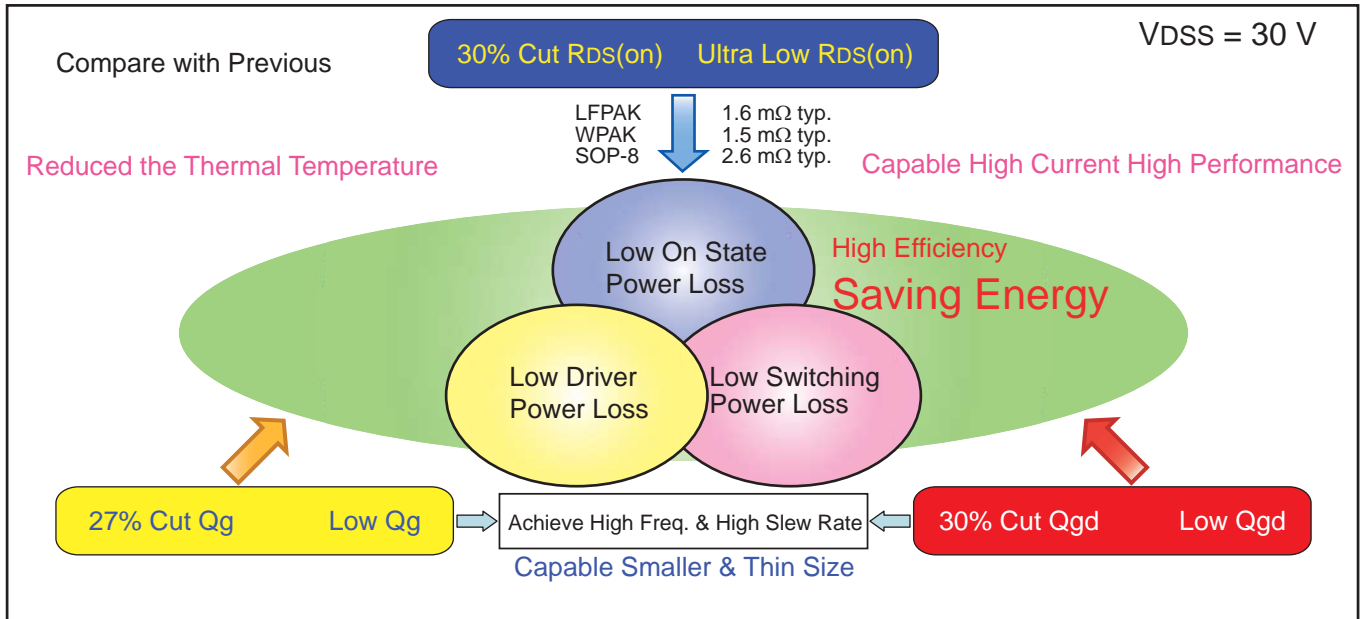
Optimized Process Design for Voltage Regulator to Achieve High Efficiency and Smaller Solution

\*JET: Renesas internal development name

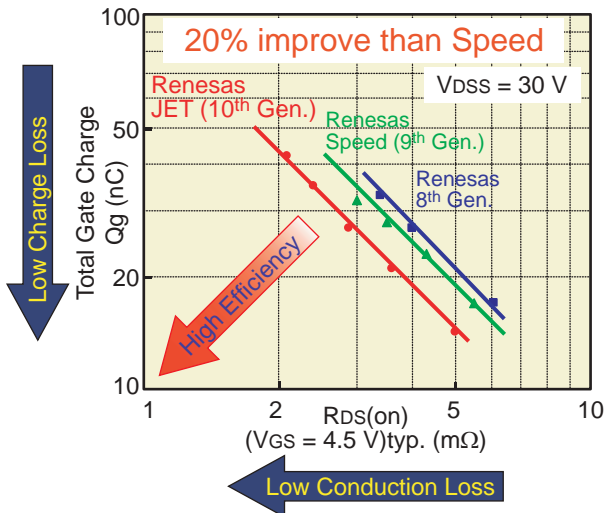
## Application

- **Voltage Regulator:** CPU Core, GPU, Chipset and Memory (N/B PC, Server, VGA, POL)
- Synchronous Rectification for Brick Converter (Telecom, Network, Server)

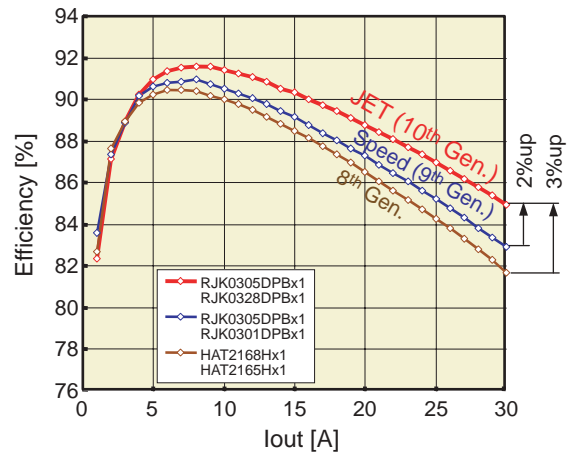
## Features and Advantage



### ● High Performance (FOM: Figure of Merit)



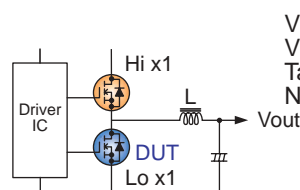
### ● High Efficiency



## Lineup

			RDS(on) (VGS = 4.5 V)(mΩ)	Qg (nC)	Qgd (nC)	Note
	LPAK	RJK0328DPB	2.1 typ. 2.9 max.	8.8	42	5 devices
	WPAK	RJK0346DPA	1.9 typ. 2.7 max.	10.5	49	11 devices
	SOP-8	RJK0348DSP	3.2 typ. 4.5 max.	7.0	34	9 devices

### <Test Conditions>



Vin = 12 V, Vout = 1.2 V  
VDR = 5 V, fsw = 500 kHz  
Ta = 25°C, L = 0.45 μH  
No Air Flow







## SiGe HBT, MMIC

### ■ High Frequency Amplification (SiGe HBT)

Package	Part No.	Ratings		Characteristics				Status
		V <sub>CEO</sub> (V)	I <sub>c</sub> (A)	f <sub>r</sub> (GHz) typ	NF (dB) typ	f (GHz)	C <sub>ob</sub> (pF) max	
CMPAK-4	RQG1001	3.5	35 m	35	1.3	5.8	0.17 typ	O♦B
	HSG1001	3.5	35 m	35	1.3	5.8	0.17 typ	O♦B
	RQG1003	3.5	35 m	36	1.2	5.8	0.24 typ	O♦B
	HSG1003	3.5	35 m	36	1.2	5.8	0.24 typ	O♦B
	RQG2001	5	100 m	18	0.9	1.8	1.2	O♦B
	HSG2001	5	100 m	18	0.9	1.8	1.2	O♦B
MFPK-4	HSG1002	3.5	35 m	38	1.2	5.8	0.22 typ	O♦B

### ■ High Frequency Amplification (SiGe MMIC)

Package	Part No.	Ratings		Characteristics				Status
		V <sub>cc</sub> (V)	I <sub>cc</sub> (A)	Gain (dB)	NF (dB)	I <sub>c</sub> (op) (A)	f (GHz)	
WQFN-8	HA31006	4	20 m	16	1.7	10 m	5.8	O♦B
CMPAK-6	RQL1001	4	20 m	16.5	2.1	10 m	5.8	O♦B

## High Frequency Power MOS FET

### ■ High Frequency Power Amplification

Package	Part No.	Ratings		Characteristics				Status
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	P <sub>out</sub> (dBm) typ				
				f (MHz)	Pin (dBm)	V <sub>DD</sub> (V)		
UPAK	2SK2596	17	0.4	31.5	836.5	18	12	O♦
	2SK3391	17	0.3	33	836	14	13.7	Δ♦
	RQA0004	16	0.3	29.7	520	13	6	O♦A
	RQA0005	16	0.8	33	520	20	6	O♦A
	RQA0008	16	2.4	36	520	20	6	O♦A
	RQA0009	16	3.2	37.8	520	25	6	O♦A
	RP8P	2SK2595	17	1.1	38.4	836.5	29.5	12
2SK3390		17	1	38.7	836	21	13.7	O♦
WSN	RQA0001	16	0.8	33	520	20	6.0	O♦A
0303-2	RQA0003	16	2.4	36	520	20	6.0	O♦A
WSN 0504-2	RQA0002	16	3.8	39.6	520	25	7.5	O♦A

Notes) O: In Mass Production

SPL: Samples are available

Δ: Long delivery date(Lead time: 3 months)

A: Promoted

B: Not recommend for new design

♦: Large order only (Unit: Refer to packing unit (P.19))

os: Overseas sales only

# High Frequency MOS FET, BBFET

## High Frequency Amplification (Twin BBFET)

Package	Part No.	Ratings		Characteristics (FET-1)				Characteristics (FET-2)				Status
		V <sub>DS</sub> (V)	I <sub>D</sub> (A)	C <sub>iss</sub> (pF) typ	lyfsl (mS) typ	NF (dB) typ	f (GHz)	C <sub>iss</sub> (pF) typ	lyfsl (mS) typ	NF (dB) typ	f (GHz)	
CMPAK-6	TBB1002	6	30 m	1.8	26	1.7	0.9	2.6	25	1.2	0.2	O♦
	TBB1004	6	30 m	1.8	26	1.7	0.9	2.7	32	1.2	0.2	Δ♦
	TBB1005	6	30 m	1.8	26	1.7	0.9	2.6	25	1.2	0.2	Δ♦
	TBB1010	6	30 m	2.1	29	1.1	0.2	2.1	29	1.1	0.2	O♦
	TBB1012	6	30 m	1.6	32	1.95	0.9	2.7	30	0.95	0.2	O♦
	TBB1016	6	30 m	2.2	35	1	0.2	2.2	35	1	0.2	O♦

## High Frequency Amplification (Small Signal MOS FET)

Package	Part No.	Ratings		Characteristics				Status
		V <sub>DS</sub> (V)	I <sub>D</sub> (A)	C <sub>iss</sub> (pF) typ	PG(dB) typ	NF (dB) typ	f (GHz)	
CMPAK	2SK1215	20	30 m	2.5	30	2.0	0.1	Δ♦B
CMPAK-4	3SK318	6	20 m	1.6	21	1.4	0.9	O♦
	3SK324	6	20 m	1.2	24	0.9	0.9	Δ♦B
	BB501C	6	20 m	1.7	21.5	1.8	0.9	Δ♦B
	BB502C	6	20 m	1.7	22	1.6	0.9	O♦
	BB503C	6	20 m	1.7	22	1.8	0.9	Δ♦
	BB505C	6	30 m	1.75	24	1.5	0.9	Δ♦
	BB301C	6	25 m	3.0	26	1.3	0.2	Δ♦
	BB504C	6	30 m	2.1	22	1.75	0.9	O♦
	BB506C	6	30 m	1.5	24	1.3	0.9	O♦
	3SK296	12	25 m	1.5	19.5	2.0	0.9	Δ♦
	3SK298	12	25 m	2.9	25	1.0	0.2	Δ♦B
	BB304C	12	25 m	2.8	29	1.2	0.2	Δ♦B
	BB305C	12	25 m	2.8	28	1.3	0.2	Δ♦
	3SK317	14	25 m	3.1	27.6	1.0	0.2	O♦

Package	Part No.	Ratings		Characteristics				Status
		V <sub>DS</sub> (V)	I <sub>D</sub> (A)	C <sub>iss</sub> (pF) typ	PG(dB) typ	NF (dB) typ	f (GHz)	
MPAK	2SK360	20	30 m	2.5	30	2.0	0.1	O♦
MPAK-4	3SK319	6	20 m	1.6	21	1.4	0.9	Δ♦
	3SK323	6	20 m	1.2	24	0.9	0.9	Δ♦B
	BB502M	6	20 m	1.7	22	1.6	0.9	O♦
	BB503M	6	20 m	1.7	22	1.8	0.9	Δ♦B
	BB505M	6	30 m	1.75	24	1.5	0.9	Δ♦B
	BB301M	6	25 m	3.0	26	1.3	0.2	Δ♦
	BB504M	6	30 m	2.1	22	1.75	0.9	O♦
	3SK295	12	25 m	1.5	19.5	2.0	0.9	Δ♦B
	3SK297	12	25 m	2.9	25	1.0	0.2	O♦
	BB302M	12	25 m	3.0	26	1.7	0.2	Δ♦B
	BB305M	12	25 m	2.8	28	1.4	0.2	O♦
	3SK300	14	25 m	3.1	27.6	1.0	0.2	Δ♦B

# High Frequency Transistors

## High Frequency Amplification

Package	Part No.	Ratings		Characteristics			C <sub>ob</sub> (pF) max	Status
		V <sub>CEO</sub> (V)	I <sub>c</sub> (A)	f <sub>r</sub> (GHz) typ	NF (dB) typ	f (GHz)		
TO-92(2)	2SC1906	19	50 m	1.0	—	—	2.0	Δ♦B
	2SC1907	19	50 m	1.1	—	—	2.0	Δ♦B
MCPAK (1408)	2SC5700	4	50 m	12	1.0	0.9	0.7	Δ♦B
	2SC5543	8	20 m	8.5	1.1	0.9	0.9	Δ♦B
	2SC5555	8	50 m	9	1.1	0.9	0.85	Δ♦B
CMPAK	2SC4965	8.0	100 m	—	—	—	1.6	Δ♦
	2SC4901	9.0	50 m	9.0	1.2	0.9	1.4	O♦
	2SC4264	11	50 m	3.5	—	—	1.5	Δ♦
	2SC4537	11	50 m	6.0	1.6	0.9	1.5	Δ♦B
	2SC4260	13	50 m	3.8	—	—	1.3	Δ♦
	2SC4261	15	50 m	2.4	—	—	1.0	Δ♦
	2SC4265	20	50 m	1.2	—	—	1.5	Δ♦
CMPAK-4	2SC5624	3.5	35 m	28	1.2	1.8	0.6	Δ♦B
	2SC5820	4	35 m	20	1.2	1.8	0.6	Δ♦
	2SC5594	4.5	35 m	24	1.2	1.8	0.6	O♦
	2SC5081	8.0	50 m	13.5	1.1	0.9	0.75	Δ♦B
MPAK	2SC5773	6	80 m	10.8	1.1	0.9	1.8	Δ♦
	2SC5772	9	75 m	9	1.1	0.9	1.5	O♦
	2SC2734	11	50 m	3.5	—	—	1.5	O♦
	2SC3127	12	50 m	4.5	2.2	0.9	1.5	Δ♦B
	2SC5890	12	75 m	7.8	1.0	0.9	1.5	O♦
	2SC4197	13	50 m	3.8	—	—	1.3	Δ♦B
	2SC2620	20	20 m	0.94	—	—	1.2	O♦
	2SC2735	20	50 m	1.2	—	—	1.5	O♦
	MPAK-4	2SC5545	6.0	50 m	13	1.1	0.9	1.1
2SC4926		8.0	50 m	11	1.1	0.9	1.1	O♦
UPAK	2SC5631	6.0	80 m	11	1.2	0.9	2.2	O♦
	2SC4988	9.0	100 m	8.5	1.3	0.9	1.6	Δ♦
	2SC4807	15	200 m	4.4	2.5	0.9	4.0	Δ♦B

## High Frequency Power Amplification

Package	Part No.	Ratings		Characteristics			Status	
		V <sub>CEO</sub> (V)	I <sub>c</sub> (A)	P <sub>out</sub> (dBm) typ				
				f (GHz)	Pin (dBm)	V <sub>cc</sub> (V)		
MPAK	2SC5998	5	500 m	29	0.5	16	3.6	O♦
TNP-6DTV	2SC5945	5	500 m	27	2.4	20	3.3	O♦

Notes) O: In Mass Production

SPL: Samples are available

Δ: Long delivery date(Lead time: 3 months)

A: Promoted

B: Not recommend for new design

♦: Large order only (Unit: Refer to packing unit (P.19))

os: Overseas sales only

# Small Signal Transistors

## General Amplification (JFET)

Package	Part No.	Ratings				Characteristics		Status
		V <sub>DS</sub> (V <sub>DSX</sub> ) (V)	V <sub>GSS</sub> (V <sub>GSO</sub> ) (V)	I <sub>D</sub> (I <sub>G</sub> ) (A)	I <sub>yfs1</sub> (mS) min	I <sub>DSS</sub> (mA)		
TO-92(2)	2SK435	22	—	0.1	20	6 - 40	—	Δ♦
MPAK	2SK1070	—	(-22)	50 m	20	6 - 40	—	O♦

## μ-FET Series (Small Signal Switching)

Package	Part No.	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)</sub> (Ω)						C <sub>iss</sub> (pF)	Status
				V <sub>GS</sub> = 10V		V <sub>GS</sub> = 4V		V <sub>GS</sub> = 2.5V			
				typ	max	typ	max	typ	max		
MPAK	2SJ574	-30	-0.3	1.1	1.3	2.2	3.1	—	—	50	O♦
	2SK3288	30	0.1	2.7	3.5	4.7	7.0	—	—	3	Δ♦B
	2SK3287	30	0.3	1.26	1.44	2.8	3.44	—	—	6	Δ♦B
	2SK3290	30	0.5	0.46	0.525	0.9	1.25	—	—	5	O♦

Package	Part No.	V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)</sub> (Ω)						C <sub>iss</sub> (pF)	Status
				V <sub>GS</sub> = 10V		V <sub>GS</sub> = 4V		V <sub>GS</sub> = 2.5V			
				typ	max	typ	max	typ	max		
CMPAK	2SJ586	-20	-0.1	—	—	4.1	5.0	6.0	8.5	28	Δ♦B
	2SJ576	-30	-0.1	2.8	3.3	5.7	7.9	—	—	25	Δ♦
	2SK3348	20	0.1	—	—	1.6	1.9	2.2	3.2	18	Δ♦
	2SK3378	30	0.1	2.7	3.5	4.7	7.0	—	—	1.6	Δ♦
	2SK3289	30	0.3	1.26	1.44	2.8	3.44	—	—	6	Δ♦

## General Amplification (Bip Transistor)

Package	Part No.	Ratings		Characteristics		Status	
		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub>	V <sub>CE(sat)</sub> (V) max		
UPAK	2SB1001	-16	-2.0	160 - 320	-0.3	Δ♦B	
	2SB1002	-50	-1.0	160 - 320	-0.6	O♦	
	2SB1025	-80	-1.0	100 - 200	-1.0	O♦	
	2SB1026	-100	-1.0	100 - 200	-1.0	O♦	
	2SB1028	-160	-1.5	100 - 200	-1.0	Δ♦B	
	2SD1974	25	0.8	250 - 1200	0.4	O♦B	
	2SD1368	50	1.0	160 - 500	0.3	O♦	
	2SD1418	80	1.0	60 - 200	1.0	O♦	
	2SD1419	100	1.0	100 - 200	1.0	Δ♦	
	2SD1421	160	1.5	60 - 120	1.0	Δ♦B	
	2SC3380	300	0.1	30 - 200	1.5	O♦	
	MPAK	2SB831	-20	-0.7	120 - 240	-0.5	Δ♦B
		2SA1052	-30	-0.1	160 - 500	-0.2	Δ♦B
		2SA1121	-35	-0.5	100 - 320	-0.6	O♦
2SB1691		-50	-1	200 - 500	-0.3	O♦	
2SA1122		-55	-0.1	160 - 500	-0.5	Δ♦B	
2SA1566		-120	-0.1	250 - 800	-0.15	Δ♦B	
2SD1306		15	0.7	250 - 800	0.5	O♦	
2SC2618		35	0.5	100 - 320	0.6	O♦	
2SC2462		40	0.1	100 - 500	0.2	O♦B	
2SC2463		50	0.1	400 - 800	0.5	Δ♦B	
CMPAK	2SD2655	50	1	200 - 500	0.3	O♦	
	2SC4050	120	0.1	250 - 800	0.1	Δ♦	
	2SC4702	300	50 m	60 - 150	0.5	O♦	
	2SC5850	40	100 m	160 - 320	0.2	Δ♦B	

Package	Part No.	Ratings		Characteristics		Status	
		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub>	V <sub>CE(sat)</sub> (V) max		
TO-92(1)	2SA673	-35	-0.5	60 - 320	-0.6	Δ♦B	
	2SA673A	-50	-0.5	60 - 320	-0.6	O♦B	
	2SA1084	-90	-0.1	400 - 800	-0.2	O♦	
	2SA1188	-90	-0.1	400 - 800	-0.15	Δ♦B	
	2SA1190	-90	-0.1	250 - 800	-0.15	Δ♦B	
	2SA1085	-120	-0.1	400 - 800	-0.2	Δ♦	
	2SD655	15	0.7	250 - 1200	0.5	Δ♦	
	2SD467	20	0.7	85 - 240	0.5	Δ♦	
	2SC1213	35	0.5	100 - 320	0.6	Δ♦B	
	2SC1213A	50	0.5	60 - 320	0.6	O♦B	
	2SC1214	50	0.5	100 - 320	0.6	Δ♦B	
	2SC2545	60	0.1	400 - 1200	0.2	Δ♦B	
	2SC2546	90	0.1	600 - 1200	0.2	Δ♦B	
	2SC2853	90	0.1	400 - 800	0.1	Δ♦B	
	2SC2547	120	0.1	400 - 800	0.2	Δ♦B	
	TO-92 MOD	2SB562	-20	-1.0	120 - 240	-0.5	O♦B
		2SD468	20	1.0	120 - 240	0.5	O♦B
2SD789		50	1.0	160 - 800	0.3	O♦B	
2SD974		60	1.0	150 -	0.3	Δ♦B	
2SD667		80	1.0	100 - 320	1.0	O♦B	
2SD667A		100	1.0	60 - 200	1.0	O♦B	
2SC2610	300	0.1	30 - 200	1.5	Δ♦B		

## General Switching (Darlington Transistors)

Package	Part No.	Ratings		Characteristics		Status
		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub>	toff (μs) typ	
TO-92(1)	2SC1472(K)	30	0.3	2 k - 100 k	0.8	Δ♦B
TO-92 MOD	2SD1209(K)	60	1.0	4 k -	—	Δ♦B

Package	Part No.	Ratings		Characteristics		Status
		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub>	toff (μs) typ	
UPAK	2SD1470	60	1.0	2 k - 100 k	—	Δ♦B
	2SD1472	120	1.5	2 k - 30 k	2.0	Δ♦B

Notes) O: In Mass Production

SPL: Samples are available

Δ: Long delivery date(Lead time: 3 months)

A: Promoted

B: Not recommend for new design

♦: Large order only (Unit: Refer to packing unit (P.19))

os: Overseas sales only



## Overseas Sales Only

**Notice: These products are for overseas sales only.**

Please contact: RSM Design Center  
RENESAS Semiconductor (Malaysia) Sdn. Bhd.  
TEL: <60>(4) 643-8121

### ■ General Amplification (Small Signal Transistors)

Package	Part No.	Ratings		Characteristics		Status
		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	hFE	V <sub>CE(sat)</sub> (V) max	
TO-92(1)	H8550	-20	-0.7	60 to 240	-0.5	Δ♦ <sup>CBT</sup>
	HIT8550	-20	-0.7	60 to 240	-0.5	O♦
	H8050	20	0.7	20 to 240	0.5	Δ♦ <sup>CBT</sup>
	HIT8050	20	0.7	20 to 240	0.5	O♦
	H945	50	0.2	135 to 600	0.25	O♦

Package	Part No.	Ratings		Characteristics		Status
		V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	hFE	V <sub>CE(sat)</sub> (V) max	
TO-92	HIT5610	-20	-1.0	60 to 240	-0.5	Δ♦
MOD	HIT5609	20	1.0	60 to 240	0.5	Δ♦
	HIT647	-120	-1.0	140 to 350	-0.5	O♦
	HIT667	120	1.0	140 to 330	0.5	O♦
	HIT562	-45	-1.0	85 to 330	-0.5	O♦
	HIT468	45	1.0	85 to 330	0.5	O♦

- Notes) O: In Mass Production  
 SPL: Samples are available  
 Δ: Long delivery date(Lead time: 3 months)  
 A: Promoted  
 B: Not recommend for new design  
 ♦: Large order only (Unit: Refer to packing unit (P.19))











# Power MOS FET

## ■ General Switching(Medium and High Voltage Power)

Package	Part No.	Ratings		Characteristics				Status	
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)</sub> (Ω) max.			C <sub>iss</sub> (pF) typ		
				10 V	4 V	2.5 V			
TO-3P	2SK1516	500	10	0.9	-	-	1100	O	
	2SK1518	500	20	0.27	-	-	2800	O	
	2SK2568	500	12	0.6	-	-	1560	O	
	H5N5007P	500	25	0.225	-	-	3900	O	
	H5N5012P	500	25	0.225	-	-	3600	Δ	
	H5N5015P	500	32	0.17	-	-	4600	O	
	RJK5013DPK	500	14	0.465	-	-	1450	OA	
	RJK5014DPK	500	19	0.38	-	-	1800	OA	
	RJK5015DPK	500	25	0.24	-	-	2600	OA	
	RJK5018DPK	500	35	0.155	-	-	4100	OA	
	RJK5020DPK	500	40	0.118	-	-	5150	OA	
	2SK1573	600	15	0.5	-	-	3150	O	
	2SK1968	600	12	0.88	-	-	1800	O	
	H5N6001P	600	20	0.38	-	-	4640	O	
	RJK6014DPK	600	16	0.575	-	-	1800	OA	
	RJK6015DPK	600	21	0.36	-	-	2600	OA	
	RJK6018DPK	600	30	0.235	-	-	4100	ΔA	
	RJK6020DPK	600	32	0.175	-	-	5150	OA	
	2SK1403A	650	8	1.4	-	-	1180	O	
	2SK1339	900	3	7	-	-	425	O	
	2SK1340	900	5	4	-	-	740	O	
	2SK1341	900	6	3	-	-	980	O	
	2SK1342	900	8	1.6	-	-	1730	O	
	2SK1933	900	10	1.2	-	-	2620	O	
	2SK1773	1000	5	2	-	-	1700	O	
	2SK1934	1000	8	1.6	-	-	2690	O	
	2SK1317	1500	2.5	12	-	-	990	O	
	2SK1835	1500	4	7	-	-	1700	O	
	H5N2802P	280	50	0.066	-	-	3600	Δ	
	H5N2803P	280	55	0.047	-	-	5150	Δ	
	RJK3008DPK	300	40	0.093	-	-	2600	OA	
	RJK4015DPK	400	30	0.165	-	-	2600	ΔA	
	RJK4515DPK	450	27	0.2	-	-	2600	ΔA	
	TO-3PFM	RJK2009DPM	200	60	0.034	-	-	2900	OA
		H5N2301PF	230	25	0.085	-	-	2250	O
		H5N2305PF	230	35	0.038	-	-	5200	O
		H5N2306PF	230	30	0.052	-	-	3500	O
		2SK1670	250	30	0.095	-	-	3100	O
		2SK2008	250	20	0.15	-	-	2340	O
		H5N2509PF	250	30	0.069	0.09	-	3600	O
		H5N2802PF	280	25	0.066	-	-	3600	Δ
		H5N2803PF	280	30	0.047	-	-	5150	Δ
		2SK1328	450	12	0.55	-	-	1450	O
		2SK1329	500	12	0.6	-	-	1450	O
		2SK1832	500	10	0.9	-	-	1050	O
2SK1405		600	15	0.5	-	-	3150	O	
2SK1775		900	8	1.6	-	-	1730	O	
2SK1859		900	6	3	-	-	980	O	
2SK2225		1500	2	12	-	-	990	O	
TO-3PL		2SK1947	250	50	0.06	-	-	5810	O

Package	Part No.	Ratings		Characteristics				Status	
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DS(on)</sub> (Ω) max.			C <sub>iss</sub> (pF) typ		
				10 V	4 V	2.5 V			
TO-3PL	2SK1948	250	50	0.06	-	-	5830	O	
	H5N2513PL	250	100	0.026	-	-	9300	O	
	H5N2801PL	280	70	0.043	-	-	5400	Δ	
	2SK1519	450	30	0.15	-	-	5800	O	
	2SK1521	450	50	0.1	-	-	8700	O	
	2SK1526	450	40	0.15	-	-	5800	O	
	2SK1628	450	30	0.25	-	-	2800	O	
	2SK1520	500	30	0.16	-	-	5800	O	
	2SK1522	500	50	0.11	-	-	8700	O	
	2SK1527	500	40	0.16	-	-	5800	O	
	2SK1629	500	30	0.27	-	-	2800	O	
	2SK1837	500	50	0.11	-	-	8150	O	
	2SK1971	500	35	0.23	-	-	4320	O	
	H5N5004PL	500	50	0.11	-	-	7630	O	
	H5N5011PL	500	50	0.115	-	-	7700	O	
	H5N5016PL	500	50	0.128	-	-	5300	O	
	2SK2393	1500	8	2.8	-	-	4370	O	
	H5N6004PL	600	35	0.21	-	-	5700	Δ	
	TTP-8DV (TSSOP-8)	HAT1065T	-200	-0.25	6.2	7.5	-	140	O♦A
		HAT2085T	200	1.4	0.64	-	-	300	O♦A
HAT2105T		200	0.5	2.2	2.7	-	120	Δ♦A	
HAT2080T		250	1.2	0.85	-	-	300	O♦A	
HAT3015T		200/ -200	0.5/ -0.25	2.2/ 6.2	2.7/ 7.5	-	120/ 140	O♦A	
FP-8DA (JEDEC) (SOP-8)	HAT1064R	-350	-0.3	25	-	-	220	O♦A	
	HAT1065R	-200	-0.25	6.2	7.5	-	140	Δ♦A	
	HAT2077R	200	3	0.235	-	-	830	O♦A	
	HAT2085R	200	2	0.64	-	-	300	O♦A	
	HAT2088R	200	2	0.44	-	-	450	O♦A	
	HAT2105R	200	0.5	2.2	2.7	-	120	Δ♦A	
	HAT2080R	250	1.7	0.85	-	-	300	O♦A	
	HAT2087R	250	2.5	0.31	-	-	830	O♦A	
	HAT2089R	250	2	0.6	-	-	450	O♦A	
	HAT2131R	350	0.9	3	3.2	-	460	O♦A	
LFPK	HAT2132H	200	6	0.45	-	-	450	Δ♦A	
	HAT2119H	250	5	0.63	-	-	450	O♦A	
	WPAK	HAT2299WP	150	14	0.11	-	-	710	O♦A
		HAT2187WP	200	17	0.094	-	-	1200	O♦A
		HAT2188WP	200	12	0.157	-	-	710	O♦A
HAT2189WP		200	8.5	0.27	-	-	430	O♦A	
HAT2287WP		200	17	0.094	-	-	1200	O♦A	
HAT2191WP	250	14	0.138	-	-	1200	O♦A		
HAT2192WP	250	10	0.23	-	-	710	O♦A		
HAT2193WP	250	7	0.4	-	-	430	O♦A		

- Notes) O: In Mass Production  
 SPL: Samples are available  
 Δ: Long delivery date(Lead time: 3 months)  
 A: Promoted  
 B: Not recommend for new design  
 ♦: Large order only (Unit: Refer to packing unit (P.19))  
 ○<sub>S</sub>: Overseas sales only

# Power MOS FET

## ■ General Amplification

Package	Part No.	Ratings		Characteristics			Status
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	lyfsl (S) typ	V <sub>DSS</sub> (sat) (V <sub>DSS</sub> (on)) (V) max	C <sub>iss</sub> (pF) typ	
TO-220 AB	2SJ76	(-140)	-0.5	0.035	-2	120	O
	2SJ77	(-160)	-0.5	0.035	-2	120	O
	2SJ78	(-180)	-0.5	0.035	-2	120	O
	2SJ79	(-200)	-0.5	0.035	-2	120	O
	2SK213	(140)	0.5	0.04	2	90	O
	2SK214	(160)	0.5	0.04	2	90	O
	2SK215	(180)	0.5	0.04	2	90	O
	2SK216	(200)	0.5	0.04	2	90	O
TO-3P	2SJ160	(-120)	-7	1.0	-12	900	O

Package	Part No.	Ratings		Characteristics			Status
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	lyfsl (S) typ	V <sub>DSS</sub> (sat) (V <sub>DSS</sub> (on)) (V) max	C <sub>iss</sub> (pF) typ	
TO-3P	2SJ161	(-140)	-7	1.0	-12	900	O
	2SJ162	(-160)	-7	1.0	-12	900	O
	2SJ351	(-180)	-8	1.0	-12	800	O
	2SJ352	(-200)	-8	1.0	-12	800	O
	2SK1056	(120)	7	1.0	12	600	O
	2SK1057	(140)	7	1.0	12	600	O
	2SK1058	(160)	7	1.0	12	600	O
	2SK2220	(180)	8	1.0	12	600	O
	2SK2221	(200)	8	1.0	12	600	O

## ■ Thermal FET

Package	Part No.	Ratings		Characteristics			Status
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DSS</sub> (on) (Ω) max		T <sub>SD</sub> (°C) typ	
				4 V (5 V) [6 V]	10 V		
TO-220 AB	HAF1001	-60	-15	0.13	0.09	175	OB
	HAF2001	60	20	0.065	0.043	175	OB
	HAF2014	60	40	0.033	0.02	175	O
TO-220 FM	HAF2002	60	20	0.065	0.043	175	OB
	HAF2005	60	40	0.033	0.02	175	O
LDBPAK(L)/ (S)-(1)	HAF1002(L)/(S)	-60	-15	0.13	0.09	175	OB
	HAF1008(L)/(S)	-60	-20	0.08	0.054	175	O
	HAF1009(L)/(S)	-60	-40	0.05	0.027	175	O
	RJE0601JPE	-60	-40	[0.04]	0.027	175	SPL A
	HAF2012(L)/(S)	60	20	0.065	0.043	175	OB

Package	Part No.	Ratings		Characteristics			Status
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DSS</sub> (on) (Ω) max		T <sub>SD</sub> (°C) typ	
				4 V (5 V) [6 V]	10 V		
LDBPAK(L)/ (S)-(1)	HAF2017(L)/(S)	60	20	0.053	0.043	175	O
	HAF2011(L)/(S)	60	40	0.033	0.02	175	O
	HAF2021(L)/(S)	60	50	0.015 (6V)	0.012	175	O
DPAK(L)-(1)/ (S)	HAF1004(L)/(S)	-60	-5	0.34	0.2	175	O
	HAF2007(L)/(S)	60	5	0.12	0.075	175	O
FP-8DA	HAF1010RJ	-60	-5	0.34	0.2	175	O♦
	HAF2015RJ	60	2	(0.2)	0.16	175	O♦
	HAF2026RJ	60	(0.6)	(0.3)	0.21	175	O♦

## ■ Dr MOS (Integrated Driver - 2MOS FET)

Package	Part No.	V <sub>in</sub> (V)	V <sub>out</sub> (V)	I <sub>out</sub> (A)	f (Hz)	Status
QFN-56	R2J20601NP	7.9 - 16	0.8 - 3.3	35	- 1M	OA
	R2J20602NP	7.4 - 16	0.8 - 3.3	40	- 2M	OA

## ■ POL-SiP (Integrated PWM Controller - 2MOS FET)

Package	Part No.	V <sub>in</sub> (V)	V <sub>out</sub> (V)	I <sub>out</sub> (A)	f (Hz)	Status
QFN-56	R2J20701NP	7.25 - 16	0.8 - 5.0	35	- 1M	OA

## ■ PC/ Battery

Package	Part No.	Ratings		Characteristics			Status
		V <sub>DSS</sub> (V)	I <sub>D</sub> (A)	R <sub>DSS</sub> (on) (Ω) max		C <sub>iss</sub> (pF) typ	
				4 V (4.5 V)	10 V (2.5 V) [1.5 V]		
FP-8DA (JEDEC: SOP-8)	HAT1132R	-30	-7	(0.04)	0.025	930	O♦A
	HAT1131R	-30	-9	(0.031)	0.019	1350	O♦A
	HAT1130R	-30	-10	(0.022)	0.014	1750	O♦A
	HAT1129R	-30	-12	(0.018)	0.0105	2400	O♦A
	HAT1128R	-30	-18	(0.0115)	0.0075	4500	O♦A
LFPAK	HAT1139H [D] (1chip)	-30	-30	(0.0145)	0.009	3200	O♦A
	HAT1127H	-30	-40	(0.0086)	0.0045	6200	O♦A
	HAT1125H	-30	-45	(0.0059)	0.0036	7000	O♦A

Notes) O: In Mass Production

SPL: Samples are available

Δ: Long delivery date(Lead time: 3 months)

A: Promoted

B: Not recommend for new design

♦: Large order only (Unit: Refer to packing unit (P.19))

os: Overseas sales only

[D]: Dual chips included



# IGBT

## ■ Strobe flashers

Package	Part No.	Ratings			Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	Drive (V)	
FP-8DA (JEDEC: SOP-8)	CY20AAJ-8	400	130	4	O♦B
	CY20AAJ-8F	400	130	4	O♦B
	CY20AAJ-8H	400	130	4	O♦
	CY25AAJ-8	400	150	4	O♦B
	CY25AAJ-8F	400	150	4	O♦

Package	Part No.	Ratings			Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	Drive (V)	
TTP-8DV (TSSOP-8)	CY25BAH-8F	400	150	2.5	O♦B
	CY25BAJ-8F	400	150	4	O♦B
	RJP4002ASA	400	150	2.5	O♦A
	RJP4003ASA	400	150	4	O♦A
TO-220FN	CT40KM-8H	400	200	30	O
VSON-8	CY25CAH-8F	400	150	2.5	O♦B
	CY25CAJ-8F	400	150	4	O♦B
	RJP4002ANS	400	150	2.5	O♦A
	RJP4003ANS	400	150	4	O♦A

## ■ Igniter

Package	Part No.	Ratings		Characteristics		Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	V <sub>CE(sat)</sub> (V) typ	t <sub>r</sub> (μs) typ	
DPAK(S)	GN4008ZB4	400	8	1.5	5	SPL ♦A
LDDPAK(S)	GN4014ZB4	400	14	1.6	5	O♦A

## ■ Plasma Display Panel

Package	Part No.	Ratings			Characteristics		Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	I <sub>C</sub> (Peak) (A)	V <sub>CE(sat)</sub> (V) typ	t <sub>r</sub> (μs) typ	
TO-220AB	RJP3054DPN	300	35	140	1.8	0.12	ΔA
	RJP3064DPN	320	35	180	1.5	0.3	ΔA
	RJP3065DPN	320	40	200	1.5	0.3	ΔA
	RJP6065DPN	630	40	200	1.8	0.45	ΔA
TO-220FN	RJP3053DPP	300	30	120	2.0	0.12	ΔA
	RJP3054DPP	300	35	140	1.8	0.12	ΔA
	RJP3055DPP	300	40	160	1.8	0.15	ΔA
	RJP3056DPP	300	45	180	1.6	0.15	ΔA
	RJP3063DPP	320	30	160	1.7	0.3	OA
	RJP3064DPP	320	35	180	1.5	0.3	OA
	RJP3065DPP	320	40	200	1.5	0.3	OA
	RJP3042DPP	330	25	120	2	0.15	OA
	RJP3046DPP	330	45	230	1.5	0.15	ΔA
	RJP4065DPP	400	40	200	1.6	0.3	OA
	RJP6045DPP	630	40	200	2.3	0.15	ΔA
	RJP6055DPP	630	40	160	2.3	0.15	OA
	RJP6065DPP	630	40	200	1.8	0.45	OA
	RJP6047DPP	630	50	250	2.2	0.15	ΔA

Package	Part No.	Ratings			Characteristics		Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	I <sub>C</sub> (Peak) (A)	V <sub>CE(sat)</sub> (V) typ	t <sub>r</sub> (μs) typ	
TO-220 CFM	RJP3063DPP-C0	320	30	160	1.7	0.3	OA
	RJP4065DPP-C0	430	40	200	1.6	0.3	OA
TO-3P	RJP2557DPK	270	50	200	1.6	0.15	OA
	RJP3056DPK	300	45	180	1.6	0.15	ΔA
	RJP3057DPK	300	50	200	1.6	0.15	OA
	RJP3066DPK	320	45	215	1.4	0.3	ΔA
	RJP3067DPK	320	50	230	1.4	0.3	ΔA
	RJP3069	320	65	300	1.3	0.3	ΔA
	RJP3060DPK	320	75	350	1.3	0.3	ΔA
	RJP3047DPK	330	50	250	1.5	0.15	OA
	RJP3049	330	65	330	1.4	0.15	ΔA
RJP4067DPK	430	50	230	1.5	0.35	ΔA	

## ■ Plasma Display Panel (Build in Diode)

Package	Part No.	Ratings			Characteristics			Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	I <sub>C</sub> (Peak) (A)	V <sub>CE(sat)</sub> (V) typ	t <sub>r</sub> (μs) typ	t <sub>rr</sub> (μs) typ	
TO-3P (Co-pack)	RJH3077DPK	330	50	200	1.6	0.16	0.1	OA
	RJH3047DPK	330	50	250	1.5	0.15	0.06	OA

## ■ High Speed Switching (Active filter)

Package	Part No.	Ratings		Characteristics		Status
		V <sub>CES</sub> (V)	I <sub>C</sub> (A)	V <sub>CE(sat)</sub> (V) typ	t <sub>r</sub> (μs) typ	
LDDPAK(S)	RJP6003DPE	600	20	1.7	0.15	Δ♦A
TO-220CFM	GN6030V5CF	600	30	1.7	0.12	OA

Note) As for the IGBT Driver IC for the strobe flashers, refer to the " Multi-Purpose ASSP " section of the Renesas Strobe Circuit Devices (RJJ01D0009-0200) and the Renesas general-purpose Logic ICs Status List (RJJ16D0001-1900).



## Standard Packaging Specifications

### ■ Shipping Quantity Per One Packing Unit

Package	Name Note	Packing Unit
TO-92	Part No. + Grade + TZ	2500 Pcs/ Box
TO-92 MOD		
MPAK	Part No. + Marking + TL/TR	3000 Pcs/ Reel
MPAK-4		
CMPAK		
CMPAK-4	Part No. + Marking + UL/UR	12000 Pcs/ Reel
CMPAK-6		
MPAK-5		
MFPAK	Part No. + Marking + TL/TR	9000 Pcs/ Reel
MFPAK-4	Part No. + Marking + TL/TR	10000 Pcs/ Reel
TSOP-6	Part No. + EL	3000 Pcs/ Taping
CMFPAK-6		
TSSOP-14 (High frequency linear IC)	Part No. + EL	1000 Pcs/ Taping
FP-8DA (JEDEC: SOP-8)	Part No. + EL	2500 Pcs/ Taping
TNP-6DTV	Part No. + TL/TR	3000 Pcs/ Reel
TNP-8TV		
WSON0303-2	Part No. + TL/TR	2000 Pcs/ Reel
WSON0303-6		
WSON0504-2	Part No. + TF/TB	2000 Pcs/ Reel

Package	Name Note	Packing Unit
TO-92*	Part No. + TB	2000 Pcs/ Box
SC-59 (To be discontinued)	Part No. + T1/T2	3000 Pcs/ Reel
SOT-89 (To be discontinued)	Part No. + T1/T2	3000 Pcs/ Reel 1000 Pcs/ Reel
MP-3A	Part No. + T1/T2	3000 Pcs/ Reel
MP-3A (RJ part number)	Part No. + EL	3000 Pcs/ Reel

Package	Name Note	Packing Unit
DPAK(L)	Part No.	3200 Pcs/ Box (sack)
LDBAK(L)	Part No.	500 Pcs/ Box (sack)
TO-220AB	Part No.	500 Pcs/ Box (sack)
TO-220FM	Part No.	500 Pcs/ Box (sack)
TO-220CFM	Part No.	600 Pcs/ Box (Tube)
TO-3P	Part No.	360 Pcs/ Box (Tube)
TO-3PFM	Part No.	360 Pcs/ Box (Tube)
TO-3PL	Part No.	500 Pcs/ Box (Case)

Package	Name Note	Packing Unit
LDBAK	Part No. + EL	2500 Pcs/ Taping
TTP-8DV (TSSOP-8)	Part No. + EL	3000 Pcs/ Taping
DPAK (S)	Part No. + TL/TR	3000 Pcs/ Taping
LDBAK (S)-(1)	Part No. + TL/TR	1000 Pcs/ Taping
LDBAK (S)-(2)		
UPAK	Part No. + Marking + TL/TR	1000 Pcs/ Reel
	Part No. + Marking + UL/UR	4000 Pcs/ Reel
RP-8P	Part No. + Marking + TB	1000 Pcs/ Reel
	Part No. + Marking + UB	4000 Pcs/ Reel
FP-11DTV (HSOP-11)	Part No. + EL	2500 Pcs/ Taping
WPAK	Part No. + EL	2500 Pcs/ Taping
LDBAK-i	Part No. + EL	2500 Pcs/ Taping

Note1) Lead (Pb) free: + "-E"

Note2) New product of DPAK(S), LDBAK(S)-(1) and LDBAK(S)-(2) is "TL" only.

Package	Name Note	Packing Unit
TO-220S	Part No. + T1/T2	1000 Pcs/ Reel

# Standard Taping Specifications

Designation	Part No. + TZ
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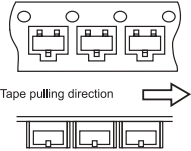
Blank area equivalent to at least 4 devices

Package	Packing Unit
TC-92 TO-92 MCD	Zigzag Box 2,500 Pcs/ Box
SPAK	Zigzag Box 2,500 Pcs/ Box

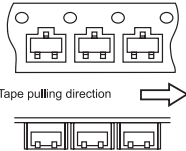
"R" of TR and UR is applied to those items which are packed face up with the marking surface positioned in the direction in which the tape can be pulled out so that the center terminal of CMPAK turns on the right side.

## CMPAK / MPAK standard taping and packing specifications (Conform to JEITA standard RC-1009A)

Designation	Part No. + Mark + TR	3000 Pcs/ Reel
	Part No. + Mark + UR	12000 Pcs/ Reel

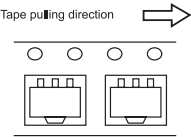


Designation	Part No. + Mark + TL	3000 Pcs/ Reel
	Part No. + Mark + UL	12000 Pcs/ Reel

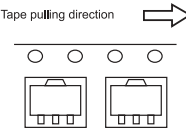


## UPAK taping and packing specifications (Conform to JEITA standard RC-1009A)

Designation	Part No. + Mark + TR	1000 Pcs/ Reel
	Part No. + Mark + UR	4000 Pcs/ Reel

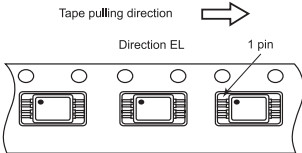


Designation	Part No. + Mark + TL	1000 Pcs/ Reel
	Part No. + Mark + UL	4000 Pcs/ Reel



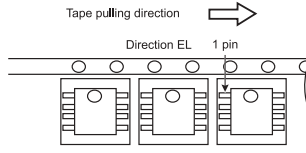
## TSSOP-8 taping and packing specifications (Conform to JIS standard C0806)

Designation	Part No. + EL	3000 Pcs/ Reel
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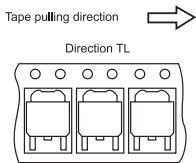
## SOP-8 taping and packing specifications (Conform to JIS standard C0806)

Designation	Part No. + EL	2500 Pcs/ Reel
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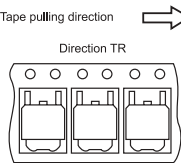


## DPAK / LDKAK taping and packing specifications (Conform to JEITA standard RC-1009B)

Designation	Part No. + TL	DPAK: 3000 Pcs/ Reel LDPAK: 1000 Pcs/ Reel
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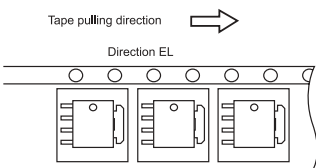
Designation	Part No. + TR	DPAK: 3000 Pcs/ Reel LDPAK: 1000 Pcs/ Reel
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TL is the standard spec. For TR, we will support individually if there is any request.

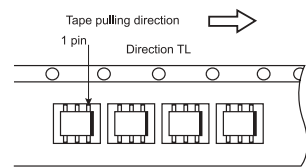
## LFPAK taping and packing specifications

Designation	Part No. + EL	2500 Pcs/ Reel
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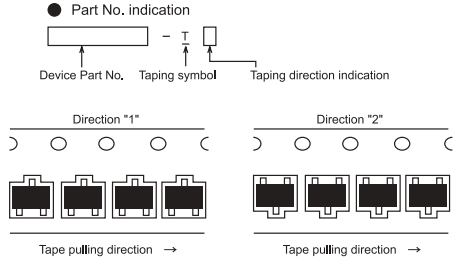


## CMPAK-6 taping and packing specifications

Designation	Part No. + TL(CMPAK-6) Part No. + EL(CMFPK-6)	3000 Pcs/ Reel
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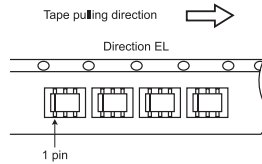


## SC-59 (Packing Unit: 3000 Pcs/ Reel)

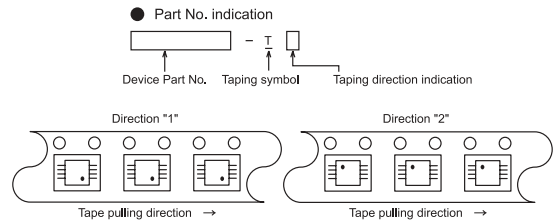


## TSOP-6 taping and packing specifications

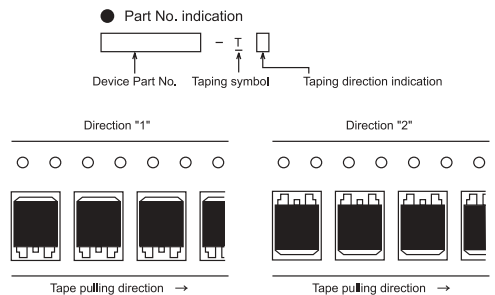
Designation	Part No. + EL	3000 Pcs/ Reel
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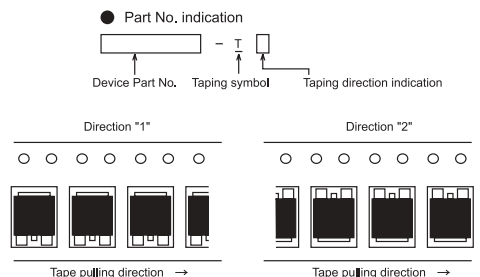
## TSSOP-8 / SOP-8 (Packing Unit: 3000 Pcs/ Reel)



## TO-220S (Packing Unit: 1000 Pcs/ Reel)

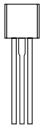

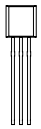





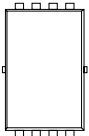

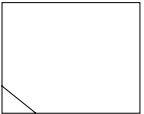




















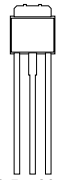
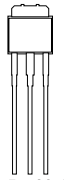


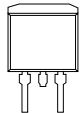

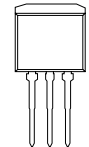


## MP-3 (Packing Unit: 3000 Pcs/ Reel)



# Package

Package Name  
Package Code

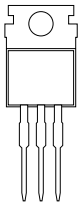
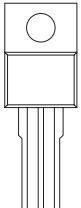
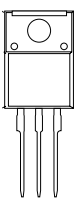
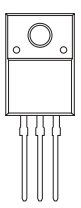
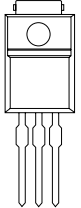
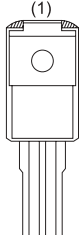
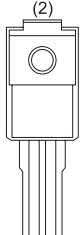
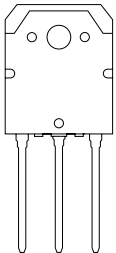
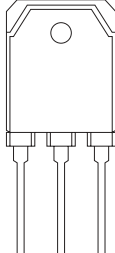
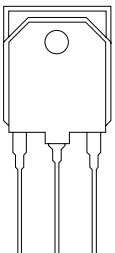
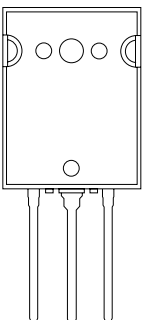
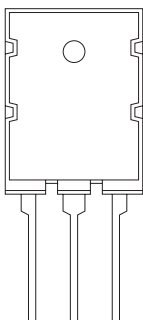

<p>TO-92*</p> <p>PRSS0003EA-A</p>  <p>5.0 x 17.5 (5.0 x 5.0)</p>	<p>TO-92(1)</p> <p>PRSS0003DA-A/ PRSS0003DB-A</p>  <p>4.8 x 17.7 (4.8 x 5.0)</p>	<p>TO-92(2)</p> <p>PRSS0003DA-C/ PRSS0003DB-C</p>  <p>4.8 x 17.7 (4.8 x 5.0)</p>	<p>TO-92MOD (JEITA: SC-51)</p> <p>PRSS0003DC-A</p>  <p>4.8 x 18.1 (4.8 x 8.0)</p>	<p>MFPKAK (1408 flat)</p> <p>PUSF0003ZA-A</p>  <p>1.4 x 1.2 (1.4 x 0.8)</p>	<p>MFPKAK-4</p> <p>PUSF0004ZA-A</p>  <p>1.4 x 1.2 (1.4 x 0.8)</p>		
<p>TNP-6DTV (HWSON-6)</p> <p>PWSN0006JA-A</p>  <p>2.0 x 2.0 (2.0 x 2.0)</p>	<p>TNP-8TV (HWQFN-8)</p> <p>PWQN0008ZA-A</p>  <p>2.0 x 2.0 (2.0 x 2.0)</p>	<p>VSON-8</p> <p>PVSN0008JA-A</p>  <p>3.0 x 4.8 (3.0 x 4.4)</p>	<p>WSON0303-2</p> <p>WSON0303-6</p> <p>PWSN0002ZA-A</p>  <p>3.0 x 3.0 (3.0 x 3.0)</p>	<p>WSON0504-2</p> <p>PWSN0002ZA-B</p> <p>PWSN0006ZA-A</p>  <p>5.0 x 4.0 (5.0 x 4.0)</p>	<p>CMPAK (JEITA: SC-70)</p> <p>PTSP0003ZA-A</p>  <p>2.0 x 2.1 (2.0 x 1.25)</p>	<p>CMPAK-4 (JEITA: SC-82AB)</p> <p>PTSP0004ZA-A</p>  <p>2.0 x 2.1 (2.0 x 1.25)</p>	<p>CMPAK-6</p> <p>PTSP0006JA-A</p>  <p>2.0 x 2.1 (2.0 x 1.25)</p>
<p>CMFPAK-6</p> <p>PWSF0006JA-A</p>  <p>2.0 x 2.1 (2.0 x 1.7)</p>	<p>SC-59</p> <p>PLSP0003ZA-A</p>  <p>2.9 x 2.5 (2.9 x 1.5)</p>	<p>MPAK (JEITA: SC-59A)</p> <p>PLSP0003ZB-A</p>  <p>2.95 x 2.8 (2.95 x 1.5)</p>	<p>MPAK-4 (JEITA: SC-61AA)</p> <p>PLSP0004ZA-A</p>  <p>2.95 x 2.8 (2.95 x 1.5)</p>	<p>TSOP-6</p> <p>PTSP0006FA-A</p>  <p>2.95 x 2.8 (2.95 x 1.6)</p>	<p>UPAK</p> <p>PLZZ0004CA-A</p>  <p>4.5 x 4.25 (4.5 x 2.5)</p>	<p>SOT-89</p> <p>PLZZ0004CB-A</p>  <p>4.6 x 4.2 (4.6 x 2.5)</p>	
<p>TTP-8DV (TSSOP-8)</p> <p>PTSP0008JB-B</p>  <p>3.0 x 6.4 (3.0 x 4.4)</p>	<p>FP-8DA (JEDEC: SOP-8)</p> <p>PRSP0008DD-A</p>  <p>4.9 x 6.1 (4.9 x 3.95)</p>	<p>LFPKAK</p> <p>PTZZ0005DA-A</p>  <p>4.9 x 6.1 (4.9 x 3.95)</p>	<p>LFPKAK-i</p> <p>PTSP0008DC-A</p>  <p>4.9 x 6.1 (4.9 x 3.95)</p>	<p>WPAK</p> <p>PWSN0008DA-A</p>  <p>5.3 x 6.1 (5.3 x 5.6)</p>	<p>TNP-56TV (QFN56)</p>  <p>8.0 x 8.0 (8.0 x 8.0)</p>		
<p>FP-11DTV (HSOP-11)</p> <p>PRSP0014DE-B</p>  <p>8.65 x 6.1 (8.65 x 3.95)</p>	<p>16P4 (DIP-16)</p> <p>PRDP0016AA-A</p>  <p>7.62 x 19 (6.3 x 19)</p>	<p>MP-3A</p> <p>PRSS0004ZA-A</p>  <p>6.5 x 10 (6.5 x 7)</p>	<p>DPKAK(S)</p> <p>PRSS0004ZD-C</p>  <p>6.5 x 9.5 (6.5 x 7)</p>	<p>DPKAK(L)-(1)</p> <p>PRSS0004ZD-A</p>  <p>6.5 x 23.4 (6.5 x 7.2)</p>	<p>DPKAK(L)-(2)</p> <p>PRSS0004ZD-B</p>  <p>6.5 x 23.4 (6.5 x 7.2)</p>	<p>DPKAK(L)-(3)</p> <p>PRSS0004ZD-D</p>  <p>6.5 x 23.1 (6.5 x 7.2)</p>	
<p>LDPKAK(S)-(1)</p> <p>PRSS0004AE-B</p>  <p>10.2 x 13.0 (10.2 x 10)</p>	<p>LDPKAK(S)-(2)</p> <p>PRSS0004AE-C</p>  <p>10.5 x 12.8 (10.5 x 10)</p>	<p>TO-220S</p> <p>PRSS0004AB-A</p>  <p>10.5 x 12.8 (10.5 x 10)</p>	<p>LDPKAK(L)</p> <p>PRSS0004AE-A</p>  <p>10.2 x 22.6 (10.2 x 10)</p>				

- Note) 1. These packages are not in full size.  
 2. Unit is mm, and those values are for reference (values of external dimensions including pins). Dimensions in ( ) are body dimensions.  
 3. For details, refer to the catalog.

# Package

Package Name

Package Code

<p><u>TO-220AB</u> PRSS0004AC-A</p>  <p>11.5 x 29 (11.5 x 15)</p>	<p><u>TO-220</u> PRSS0004AA-A</p>  <p>10.5 x 28.5 (10.5 x 15)</p>	<p><u>TO-220C.FM</u> PRSS0003AE-A</p>  <p>10 x 28.6 (10 x 15)</p>	<p><u>TO-220FN</u> PRSS0003AB-A</p>  <p>10 x 29 (10 x 15)</p>	<p><u>TO-220FM</u> PRSS0003AD-A</p>  <p>10 x 31 (10 x 17)</p>	<p><u>TO-220F</u> PRSS0003AA-A</p>  <p>(1) 10.5 x 30.5 (10.5 x 17)</p>  <p>(2) 10.5 x 30.5 (10.5 x 17)</p>
<p><u>TO-3P</u> PRSS0004ZE-A</p>  <p>15.6 x 37.9 (15.6 x 19.9)</p>	<p><u>TO-3P*</u> PRSS0004ZB-A</p>  <p>15.9 x 39.5 (15.9 x 19.9)</p>	<p><u>TO-3PFM</u> PRSS0003ZA-A</p>  <p>15.6 x 40.9 (15.6 x 19.9)</p>	<p><u>TO-3PL</u> PRSS0004ZF-A</p>  <p>20 x 46 (20 x 26)</p>	<p><u>TO-3PL*</u> PRSS0004ZC-A</p>  <p>20 x 46 (20 x 26)</p>	
<p><b>RF POWER TRANSISTOR</b></p> <p><u>RP8P</u> PLSS0003ZA-A</p>  <p>5.2 x 5.6 (5.2 x 3.4)</p>					

- Note) 1. These packages are not in full size.  
 2. Unit is mm, and those values are for reference (values of external dimensions including pins). Dimensions in ( ) are body dimensions.  
 3. For details, refer to the catalog.

# Surface Mount Type Marking

## ■ MPAK

Part No.	Marking
2SA1052	MC, MD
2SA1121	SC, SD
2SA1122	CC, CD
2SA1566	JID, JIE
2SB831	BC
2SB1691	WL-
2SC2462	LB, LC, LD
2SC2463	DE
2SC2618	RC, RD
2SC2620	QB, QC
2SC2734	GC
2SC2735	JC
2SC3127	ID-
2SC4050	KID, KIE
2SC4197	TI-
2SC4702	XV-
2SC5772	FR-
2SC5773	JR-
2SC5890	FS-
2SC5998	YC-
2SD1306	NE
2SD2655	WM-
2SJ399	ZF-
2SJ451	ZK-
2SJ486	ZU-
2SJ574	BP
2SK360	IGE, IGF
2SK1070	PIC, PID, PIE
2SK2373	ZE-
2SK2569	ZN-
2SK2570	ZL-
2SK2980	ZZ-
2SK3000	ZY-
2SK3287	AN
2SK3288	EN
2SK3290	BN
RQJ0201UGDQA	UG
RQJ0202VGDQA	VG
RQJ0203WGDQA	WG
RQJ0204XGDQA	XG
RQJ0302NGDQA	NG
RQJ0303PGDQA	PG
RQJ0602EGDQA	EG
RQJ0603LGDQA	LG
RQK0201QGDQA	QG
RQK0202RGDQA	RG
RQK0203SGDQA	SG
RQK0204TGDQA	TG
RQK0302GGDQA	GG
RQK0303MGDQA	MG
RQK0603CGDQA	CG
RQK0605JGDQA	JG

## ■ MPAK-4

Part No.	Marking
2SC4926	YD-
2SC5545	ZS-
3SK295	ZQ-
3SK297	ZP-
3SK300	ZR-
3SK319	YB-
3SK323	UG-
BB301M	AW-
BB302M	BW-
BB305M	EW-
BB502M	BS-
BB503M	CS-
BB504M	DS-
BB505M	ES-

## ■ UPAK

Part No.	Marking
2SB1001	BJ
2SB1002	CJ
2SB1025	DJ
2SB1026	DM
2SB1028	EM
2SC3380	AS
2SC4807	ER
2SC4988	FR
2SC5631	JR
2SD1368	CB, CC
2SD1418	DA, DB
2SD1419	DE
2SD1421	ED
2SD1470	AT
2SD1472	CT
2SD1974	ES
2SJ186	CY
2SJ244	JY
2SJ278	MY
2SJ317	NY
2SJ484	WY
2SJ517	YY
2SJ518	AZ
2SK1334	BY
2SK1579	DY
2SK1697	EY
2SK1764	KY
2SK1772	HY
2SK2315	TY
2SK2596	BX
2SK2788	VY
2SK2978	ZY
2SK3391	JX
RQA0004PXDQS	PX
RQA0005QXDQS	QX
RQA0008RXDQS	RX
PQA0009TXDQS	TX
RQJ0301HGDQS	HG
RQJ0601DGDQS	DG
RQJ0602EGDQS	EG
RQK0301FGDQS	FG
RQK0302GGDQS	GG
RQK0601AGDQS	AG
RQK0603CGDQS	CG

## ■ RP8P

Part No.	Marking
2SK2595	AX
2SK3390	IX

## ■ CMPAK

Part No.	Marking
2SC4260	TI-
2SC4261	QI-
2SC4264	GC
2SC4265	JC
2SC4537	IS-
2SC4901	YK-
2SC4965	YV-
2SC5850	LC
2SJ576	AP
2SJ586	CP
2SK1215	IGE, IGF
2SK3289	AN
2SK3348	CN
2SK3378	EN

## ■ CMPAK-4

Part No.	Marking
2SC5081	ZD-
2SC5594	XP-
2SC5624	VH-
2SC5820	WU-
3SK296	ZQ-
3SK298	CB, CC
3SK317	ZR-
3SK318	YB-
3SK324	UG-
BB301C	AW-
BB304C	DW-
BB305C	EW-
BB501C	AS-
BB502C	BS-
BB503C	CS-
BB504C	DS-
BB505C	ES-
BB506C	FS-
HSG1001	VD-
HSG1003	VE-
HSG2001	VF-
RQG1001	UP-
RQG1003	UQ-
RQG2001	UR-

## ■ CMPAK-6

Part No.	Marking
TBB1002	BM
TBB1004	DM
TBB1005	EM
TBB1010	KM
TBB1012	MM
TBB1016	RM
RQL1001	JL

## ■ MFPK

Part No.	Marking
2SC5543	YA-
2SC5555	ZD-
2SC5700	WB-

## ■ MFPK-4

Part No.	Marking
HSG1002	VE-

## ■ CMFPAK-6

Part No.	Marking
HAT1069C	VY-
HAT1089C	VK-
HAT1090C	VJ-
HAT1091C	VL-
HAT1093C	VM-
HAT1094C	VN-
HAT1095C	VP-
HAT1096C	VQ-
HAT1108C	VZ-
HAT1111C	UA-
HAT1114C	UM-
HAT1146C	US-
HAT1147C	UT-
HAT2196C	VS-
HAT2202C	VR-
HAT2203C	VT-
HAT2204C	VU-
HAT2205C	VV-
HAT2206C	VW-
HAT2207C	VX-
HAT2217C	UB-
HAT2221C	UC-
HAT2240C	UK-
HAT2268C	UN-
HAT2281C	UH-
HAT2282C	UJ-
HAT2286C	UY-
HAT2291C	UU-
HAT2292C	UV-
HAT3042C	UW-
HAT3043C	UX-

## ■ SOT-89 (To be discontinued)

Part No.	Marking
CR05AS-8	**CD (**): Dependent on manufactured date
CR08AS-12	**AF (**): Dependent on manufactured date
BCR08AS-12	**BF (**): Dependent on manufactured date

## ■ SC-59 (To be discontinued)

Part No.	Marking
CR05BS-8	3** (**): Dependent on manufactured date

## ■ TNP-6DTV

Part No.	Marking
2SC5945	5945

## ■ WSON0303-2

Part No.	Marking
RQA0001DNS	A0001
RQA0003DNS	A0003

## ■ WSON0504-2

Part No.	Marking
RQA0002DNS	RQA0002

# Discrete Semiconductor Document

## ■ Only on the web

Language	Document Name	Publication Date	Document No.
English	Power MOS FET Application Note	2004.3	REJ05G0001-0200Z

# Deleted Type from the List of Previous Versions

Part No.							
2SK1160	2SK1401A	2SK1626	2SK3461(L)/(S)	HSG2002	HSG2004	HSG2005	RJK1526DPP
RQK0607AQDQS	RQK0608BQDQS	RQK2501YGDQA	TBB1017				

Note) Deleted type from the list of previous versions.

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