High performance Power MOSFET

for low voltage industrial and consumer applications

Renesas Electronics
www.renesas.eu

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Renesas understands the future design demands for Power MOSFETs including high performance, PCB space saving and cost reduction. Renesas meets these requirements with their new generation of high efficiency Power MOSFETs that offer a wide voltage range from V_{DSS} = 12 V to 250 V. They allow fast switching speeds through outstanding reduced package inductance as well as lower on-state losses achieved through lower package and chip resistance. Huge improvements in thermal resistance characteristics complete the excellent performance.

Efficient Power Designs

Easy topology development resulting in high performance circuitry.

Applications:

- Motor drives, inverter
- DC/DC converter, POL
- Telecommunication systems
- Notebook and computing equipment

Features

- Excellent thermal characteristics
- Low RDS(on)
- Minimized package inductivity and resistance
- Small and thin package outlines
- SOP-8 footprint compatible (LFPAK / LFPAK-i* / HVSON-8)

Benefits

- Eases heat sink design
- Low power consumption
- Highly efficient operation
- PCB cost reduction
- Easy upgrade of existing SOP-8 designs

To find the ideal power device for your design, please use the convenient selector guide below or visit

www.renesas.eu

Take advantage of the online PowerMOSFET design tool *Renesas Virtual Power Lab.* for optimized product selection and integration:

www. Renesas.eu/vp-lab

RENESAS Lab. VP
Renesas Virtual Power Laboratory

* LFPAK-i offers over the top cooling.

HVSON-8

P/N	Channel Type	V_{DSS} [V]	$I_{D(DC)}$ [A]	$R_{DS(on)max}$ [mΩ]				C_{iss} [pF]	Q_G [nC]
				V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V	V_{GS}=1.8V		
µPA2722UT1A	N	30	29	3.3	4.6	–	–	6200	46
µPA2723UT1A	N	30	33	2.5	3.5	–	–	8100	64
µPA2724UT1A	N	30	29	3.3	5.0	–	–	4400	35
µPA2725UT1A	N	30	25	5.0	7.5	–	–	2580	22
µPA2726UT1A	N	30	20	7.0	11.0	–	–	1720	15
µPA2727UT1A	N	30	16	9.6	15.0	–	–	1170	11
µPA2731UT1A	P	-30	-44	3.3	6.4	–	–	–	149
µPA2732UT1A	P	-30	-40	3.7	6.7	–	–	–	133
µPA2743T1A	N	30	29	3.3	4.6	–	–	–	39
µPA2744UT1A	N	30	65	2.0	2.9	–	–	5800	43
µPA2745UT1A	N	30	50	2.7	3.7	–	–	4070	31
µPA2746UT1A	N	30	45	3.0	4.5	–	–	3340	27
µPA2747UT1A	N	30	40	4.5	6.8	–	–	2200	17
µPA2749UT1A	N	30	25	10.0	15.0	–	–	900	8
µPA2763UT1A	N	100	10	23.0	28.0*	–	–	1960	39

* $R_{DS(on)max}$ @ VGS=8.0V

Mini-HVSON8

P/N	Channel Type	V_{DSS} [V]	$I_{D(DC)}$ [A]	$R_{DS(on)max}$ [mΩ]				C_{iss} [pF]	Q_G [nC]
				V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V	V_{GS}=1.8V		
µPA2800T1L	N	30	17	7.3	10.0	–	–	1770	17
µPA2801T1L	N	30	16	9.6	15.0	–	–	1170	11
µPA2802T1L	N	20	18	5.8	10.0	–	–	1800	16
µPA2803T1L	N	20	20	–	5.8	9.5	–	2450	20
µPA2805UT1L	N	30	25	10.0	15.0	–	–	940	8
µPA2806T1L	N	100	6	57.0	–	–	–	780	18
µPA2807T1L*	N	30	34	4.6	tbd	–	–	tbd	tbd
µPA2810T1L	P	-30	-13	12.0	23.0	–	–	1860	40
µPA2811T1L*	P	-30	-16	15.0	tbd	–	–	tbd	30

* Under Development

SOT-23F

P/N	Channel Type	V_{DSS} [V]	$I_{D(DC)}$ [A]	$R_{DS(on)max}$ [mΩ]				C_{iss} [pF]	Q_G [nC]
				V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V	V_{GS}=1.8V		
N0100P	P	-12	3.5	–	44	62	105	630	6.2
N0301P	P	-30	4.0	–	75	106	–	780	8.7
N0302P	P	-30	4.4	54	77	–	–	570	13
N0301N	N	30	4.5	36	50	–	–	400	4.3

NEW JET series LFPAK

P/N	Channel Type	V_{DSS} [V]	$I_{D(DC)}$ [A]	$R_{DS(on)max}$ [mΩ]				C_{iss} [pF]	Q_G [nC]
				V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V	V_{GS}=1.8V		
RJK0328DPB	N	30	60	2.1	2.9	–	–	–	42
RJK0329DPB	N	30	55	2.3	3.4	–	–	–	35
RJK0330DPB	N	30	45	2.7	3.9	–	–	–	27
RJK0331DPB	N	30	40	3.4	4.9	–	–	–	21
RJK0332DPB	N	30	35	4.7	7.0	–	–	–	14
RJK0454DPB	N	40	40	4.9	–	–	–	2000	25
RJK0455DPB	N	40	45	3.8	–	–	–	2550	34
RJK0456DPB	N	40	50	3.2	–	–	–	3000	39
RJK0654DPB	N	60	30	8.3	–	–	–	2000	27
RJK0655DPB	N	60	35	6.7	–	–	–	2550	35
RJK0656DPB	N	60	40	5.6	–	–	–	3000	40
RJK0854DPB	N	80	25	13.0	–	–	–	2000	27
RJK0855DPB	N	80	30	11.0	–	–	–	2550	35
RJK0856DPB	N	80	35	8.9	–	–	–	3000	40
RJK1054DPB	N	100	20	22.0	–	–	–	2000	27
RJK1055DPB	N	100	23	17.0	–	–	–	2550	35
RJK1056DPB	N	100	25	14.0	–	–	–	3000	41

LFPAK

P/N	Channel Type	V_{DSS} [V]	$I_{D(DC)}$ [A]	$R_{DS(on)max}$ [mΩ]				C_{iss} [pF]	Q_G [nC]
				V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V	V_{GS}=1.8V		
HAT1072H	P	-30	-40	4.5	7.7	–	–	9500	155
HAT1125H	P	-30	-45	3.6	5.9	–	–	7000	–
HAT1127H	P	-30	-40	4.5	8.6	–	–	6200	–
HAT1139H (D)	P	-30	-30	9.0	14.5	–	–	3200	73
HAT2096H	N	30	40	5.3	10.0	–	–	2200	40
HAT2099H	N	30	50	3.7	7.3	–	–	4750	75
HAT2116H	N	30	30	8.2	15.3	–	–	1650	26
HAT2119H	N	250	5	630.0	–	–	–	450	–
HAT2129H	N	40	30	7.5	–	–	–	3200	46
HAT2132H	N	200	6	450.0	–	–	–	450	–
HAT2134H	N	20	60	2.9	5.8	–	–	4500	70
HAT2137H	N	40	45	4.8	–	–	–	6200	95
HAT2139H	N	40	20	11.5	–	–	–	200	30
HAT2140H	N	100	25	16.0	–	–	–	6500	105
HAT2141H	N	100	15	27.5	–	–	–	3200	46
HAT2142H	N	100	10	44.0	–	–	–	2000	32
HAT2160H	N	20	60	2.6	4.1	–	–	7750	54
HAT2171H	N	40	40	4.8	–	–	–	2280	52
HAT2172H	N	40	30	7.5	–	–	–	1445	32
HAT2173H	N	100	25	15.0	–	–	–	4350	61
HAT2174H	N	100	20	27.0	–	–	–	2280	33.5
HAT2175H	N	100	15	42.0	–	–	–	1445	21
HAT2261H	N	30	45	3.8	6.1	–	–	–	27
HAT2265H	N	30	55	3.3	53.0	–	–	–	33
HAT2266H	N	60	30	12.0	16.0	–	–	3500	40
HAT2267H	N	80	25	16.0	21.0	–	–	–	32
HAT2270H MOS1 + SBD*	N	30	50	3.4	4.9	–	–	7700	49
HAT2279H	N	80	30	12.0	15.0	–	–	–	60
HAT2283H MOS1 + SBD*	N	30	40	4.3	5.6	–	–	–	41
HAT2284H MOS1 + SBD*	N	30	35	4.8	6.9	–	–	–	32
RJK0301DPB	N	30	60	2.8	4.0	–	–	5300	32
RJK302DPB	N	30	50	3.1	4.6	–	–	4170	28
RJK303DPB	N	30	40	3.7	5.6	–	–	3350	23
RJK304DPB	N	30	35	4.8	7.2	–	–	2500	17
RJK305DPB	N	30	30	8.0	13.0	–	–	1250	8
RJK03C1DPB	N	30	60	2.2	3.1	–	–	6000	42
RJK03C2DPB	N	30	55	2.5	3.5	–	–	4900	tbd

LFPAK-i

P/N	Channel Type	V_{DSS} [V]	$I_{D(DC)}$ [A]	$R_{DS(on)max}$ [mΩ]				C_{iss} [pF]	Q_G [nC]
				V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V	V_{GS}=1.8V		
HAT2165N	N	30	55	3.6	5.6	–	–	5180	33
HAT2166N	N	30	45	4.1	6.4	–	–	4200	27
HAT2168N	N	30	30	8.2	13.8	–	–	1780	11
HAT2169N	N	40	50	3.5	6.0	–	–	6650	45
HAT2170N	N	40	45	4.2	–	–	–	3600	62
HAT2171N	N	40	40	4.8	–	–	–	2280	52
HAT2172N	N	40	30	7.8	–	–	–	1445	2
HAT2173N	N	100	25	15.3	–	–	–	4350	61
HAT2174N	N	100	20	27.0	–	–	–	2280	33.5
HAT2175N	N	100	15	42.0	–	–	–	1445	21
HAT2279N	N	80	30	12.0	15.0	–	–	–	60
RJK0301DPC	N	30	60	3.1	4.3	–	–	5300	32
RJK0302DPC	N	30	50	3.4	4.9	–	–	4170	28
RJK0303DPC	N	30	40	4.0	5.9	–	–	3350	23
RJK0304DPC	N	30	35	5.1	7.5	–	–	2500	17
RJK0305DPC	N	30	30	8.3	13.3	–	–	1250	8

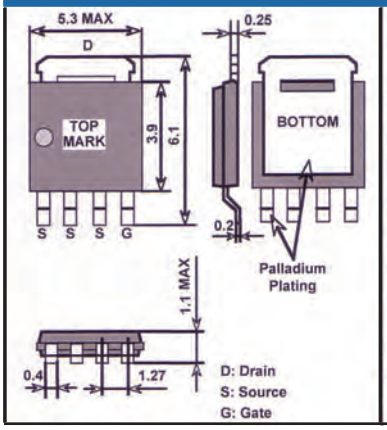
Standard packing specifications (Shipping quantity per one packing unit)

Package	Name note	Packing quantity	Unit
HVSON-8	Type No.+ E1/E2-AY	3000	Pcs/Reel
mini-HVSON-8	Type No.+E1/E2-AY	3000	Pcs/Reel
SOT23F	Type No.+T1/T2-AT	3000	Pcs/Reel
LFPAK	Type No.+EL*	2500	Pcs/Taping
LFPAK-i	Type No.+EL*	2500	Pcs/Taping
WPAK	Type No.+EL*	2500	Pcs/Taping
FP-8DA (JEDEC, SOP-8)	Type No.+EL*	2500	Pcs/Taping

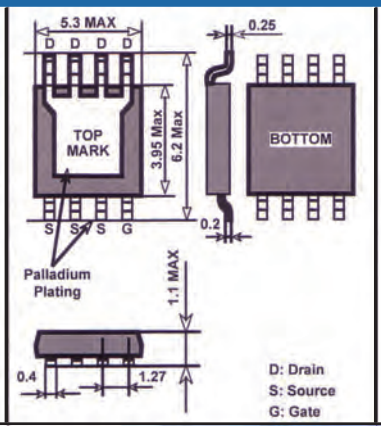
* Lead (Pb) free add suffix "-E"

Package dimensions

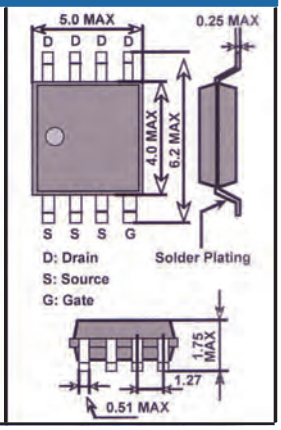
LFPAK



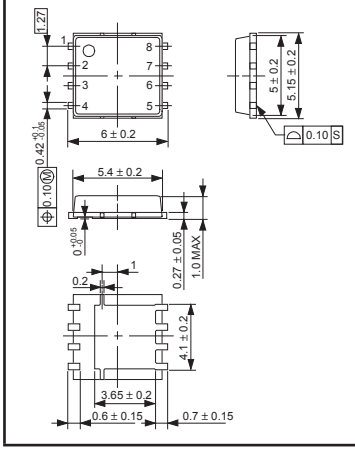
LFPAK-i



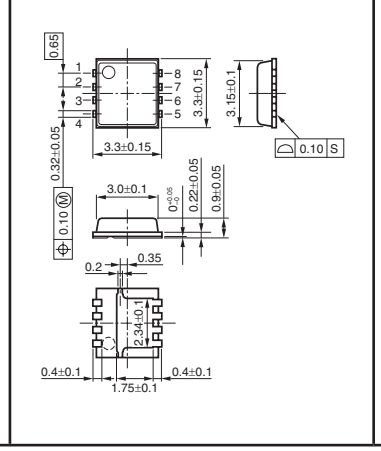
SOP-8



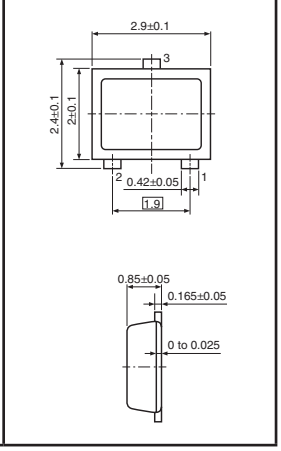
HVSON-8



miniHVSON-8



SOT23F



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