RJH60D1DPE

Silicon N Channel IGBT
Application: Inverter

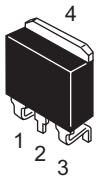
REJ03G1840-0100
Rev.1.00
Oct 14, 2009

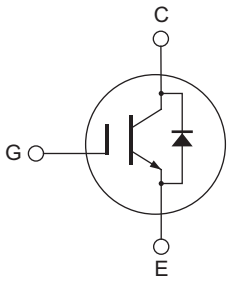
Features

- High breakdown-voltage
- Low on-voltage
- Built-in diode

Outline

RENESAS Package code: PRSS0004AE-B
(Package name: LDPAK (S)-(1))





1. Gate
2. Collector
3. Emitter
4. Collecotor

Absolute Maximum Ratings

(Ta = 25°C)

Item		Symbol	Ratings	Unit
Collector to emitter voltage / diode reverse voltage		V_{CES} / V_R	600	V
Gate to emitter voltage		V_{GES}	±30	V
Collector current	Tc = 25°C	I_C	16	A
	Tc = 100°C	I_C	8	A
Collector peak current		ic(peak) Note1	32	A
Collector to emitter diode forward current		i_{DF}	8	A
Collector to Emitter diode forward peak current		i_{DF}(peak) Note1	32	A
Collector dissipation		P_C Note2	70	W
Junction to case thermal impedance		θj-c Note2	1.79	°C/ W
Junction temperature		Tj	150	°C
Storage temperature		Tstg	–55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%
2. Value at Tc = 25°C

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current / Diode reverse current	I_{CES} / I_R	—	—	100	μA	V_{CE} = 600 V, V_{GE} = 0
Gate to emitter leak current	I_{GES}	—	—	±1	μA	V_{GE} = ±30 V, V_{CE} = 0
Gate to emitter cutoff voltage	$V_{GE(off)}$	4.0	—	6.0	V	V_{CE} = 10 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.8	2.2	V	I_C = 8 A, V_{GE} = 15 V Note3
	$V_{CE(sat)}$	—	2.3	—	V	I_C = 16 A, V_{GE} = 15 V Note3
Input capacitance	Cies	—	290	—	pF	V_{CE} = 25 V V_{GE} = 0 f = 1 MHz
Output capacitance	Coes	—	25	—	pF	
Reveres transfer capacitance	Cres	—	7.5	—	pF	
Total gate charge	Qg	—	12.0	—	nC	V_{GE} = 15 V V_{CE} = 300 V I_C = 8 A
Gate to emitter charge	Qge	—	2.0	—	nC	
Gate to collector charge	Qgc	—	6.0	—	nC	
Switching time	$t_{d(on)}$	—	25	—	ns	I_C = 8 A R_L = 37.5 Ω V_{GE} = 15 V Rg = 5 Ω
	t_r	—	35	—	ns	
	$t_{d(off)}$	—	40	—	ns	
	t_f	—	100	—	ns	

FRD forward voltage	V_F	—	1.8	2.3	V	I_F = 8 A Note3
FRD reverse recovery time	t_{rr}	—	100	—	ns	I_F = 8 A di_F/dt = 100 A/μs

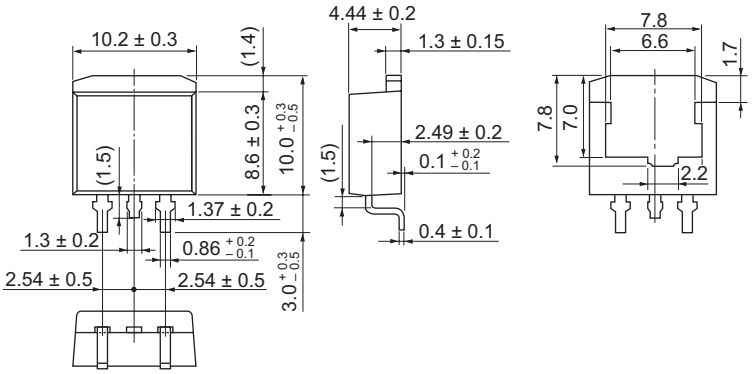
Notes: 3. Pulse test.

4. Under development. –The specification potentially be changed without notice.

Package Dimension

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
LDPAK(S)-(1)	SC-83	PRSS0004AE-B	LDPAK(S)-(1) / LDPAK(S)-(1)V	1.30g

Unit: mm



Ordering Information

Part No.	Quantity	Shipping Container
RJH60D1DPE-00-J3	1000 pcs	Taping

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