RJH60C9DPD

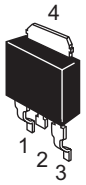
Silicon N Channel IGBT
Application: Inverter

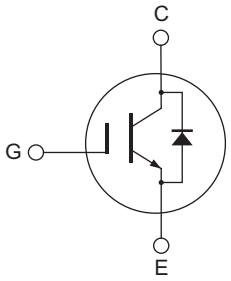
REJ03G1838-0100
Rev.1.00
Oct 14, 2009

Features

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

RENESAS Package code: PRSS0004ZD-C
(Package name: DPAK (S))





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	10	A
	Tc = 100°C	I_C	5	A
Collector peak current		Ic(peak) Note1	20	A
Collector to emitter diode forward current		i_{DF}	5	A
Collector to emitter diode forward peak current		i_{DF}(peak) Note1	20	A
Collector dissipation		P_C Note2	45	W
Junction to case thermal impedance		θj-c Note2	2.78	°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	—	—	1.0	μA	V_{CE} = 600 V, V_{GE} = 0V
Gate to emitter leak current	I_{GES}	—	—	±100	nA	V_{GE} = ±30 V, V_{CE} = 0V
Gate to emitter cutoff voltage	$V_{GE(off)}$	4.0	6.0	8.0	V	V_{CE} = 10 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.9	2.5	V	Tc = 25°C I_C = 5 A, V_{GE} = 15 V Note3
	$V_{CE(sat)}$	—	2.0		V	Tc = 100°C I_C = 5 A, V_{GE} = 15 V Note3
Input capacitance	Cies	—	180	—	pF	V_{CE} = 25 V V_{GE} = 0V f = 1 MHz
Output capacitance	Coes	—	19	—	pF	
Reveres transfer capacitance	Cres	—	7	—	pF	
Total gate charge	Qg	—	8.0	—	nC	V_{GE} = 15 V V_{CE} = 300 V I_C = 5 A
Gate to emitter charge	Qge	—	5.0	—	nC	
Gate to collector charge	Qgc	—	2.5	—	nC	
Switching time	$t_{d(on)}$	—	25	—	ns	I_C = 5 A R_L = 37.5 Ω V_{GE} = 15 V Rg = 5 Ω
	t_r	—	50	—	ns	
	$t_{d(off)}$	—	40	—	ns	
	t_f	—	250	—	ns	

FRD Forward voltage	V_F	—	1.8	2.3	V	I_F = 5 A Note3
FRD reverse recovery time	t_{rr}	—	100	—	ns	I_F = 5 A, di_F/dt = 100 A/μs

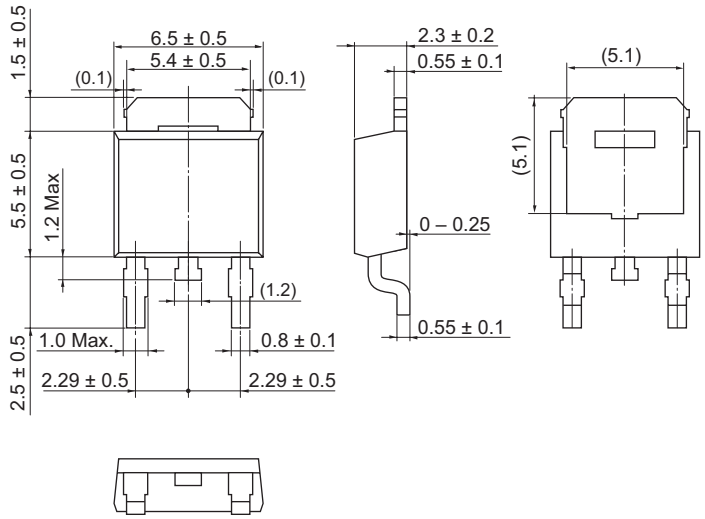
Notes: 3. Pulse test.

4. Under development. —The specifications potentially be changed without notice.

Package Dimension

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
DPAK(S)	SC-63	PRSS0004ZD-C	DPAK(S) / DPAK(S)V	0.28g

Unit: mm



Ordering Information

Part No.	Quantity	Shipping Container
RJH60C9DPD-00-J2	3000 pcs	Taping

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http://www.renesas.com

Refer to "**http://www.renesas.com/en/network**" for the latest and detailed information.

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