

RJH1CG5RDPQ-E0

1200V - 25A - IGBT
High Speed Power Switching

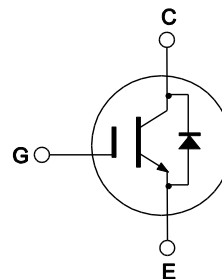
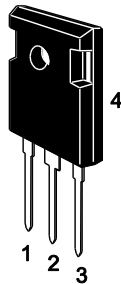
Rev.0.01
Dec 07, 2012

Features

- Voltage resonance circuit use
- Reverse conducting IGBT with monolithic body diode
- High efficiency device for induction heating
- Low collector to emitter saturation voltage
 $V_{CE(sat)} = 1.95 \text{ V typ. (at } I_C = 25 \text{ A, } V_{GE} = 15\text{V, } T_j = 25^\circ\text{C)}$
- Gate to emitter voltage rating $\pm 30 \text{ V}$
- Pb-free lead plating

Outline

RENESAS Package code: PRSS0003ZE-A
(Package name: TO-247)



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

Absolute Maximum Ratings

($T_c = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit	
Collector to emitter voltage	V_{CES}	1200	V	
Gate to emitter voltage	V_{GES}	± 30	V	
Collector current	$T_c = 25^\circ\text{C}$	I_C	50	A
	$T_c = 100^\circ\text{C}$	I_C	25	A
Collector peak current	$I_{C(peak)}$ ^{Note1}	100	A	
Collector to emitter diode forward current	I_{DF}	(50)	A	
Collector dissipation	P_C	192.3	W	
Junction to case thermal impedance	θ_{j-c}	0.65	$^\circ\text{C/W}$	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

Notes: 1. Pulse width limited by safe operating area.

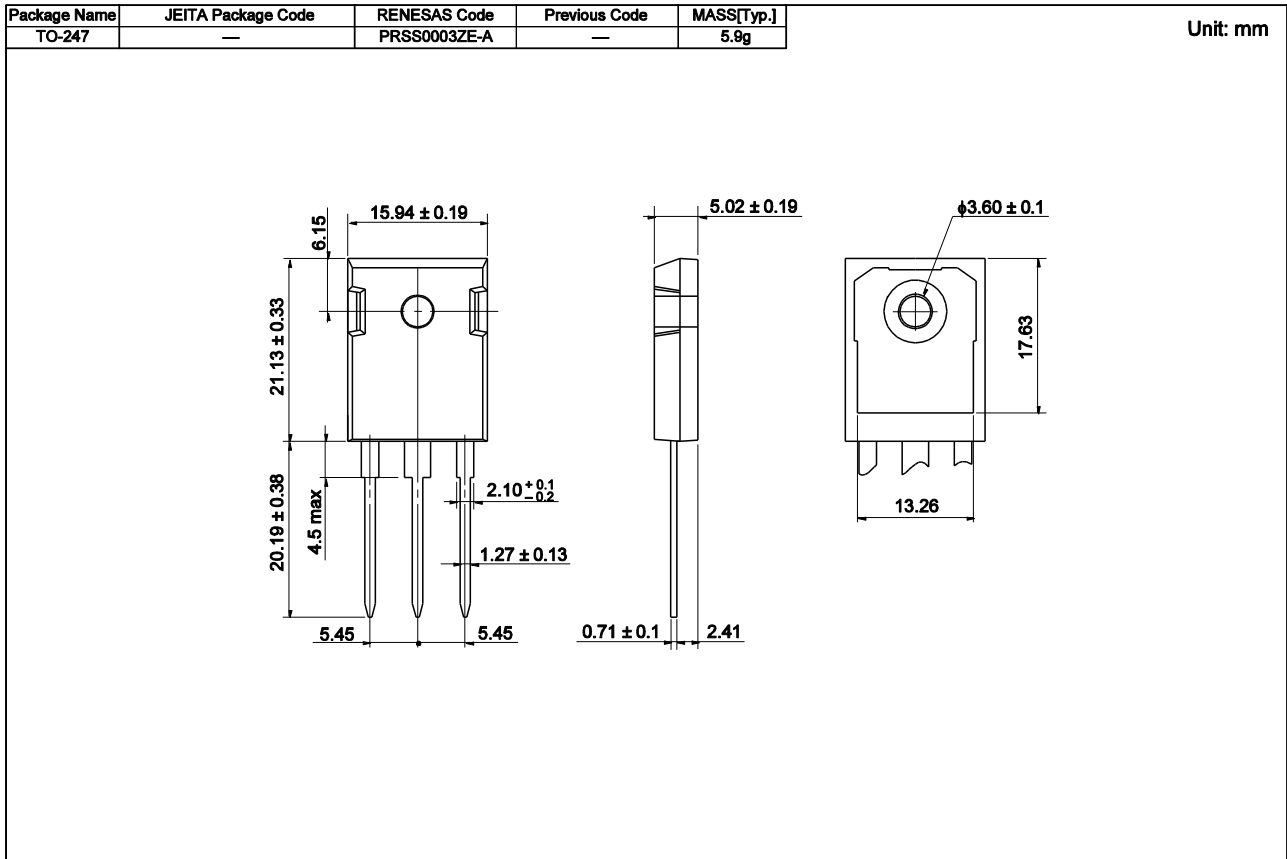
Electrical Characteristics

(T_j = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I _{CES}	—	—	100	μA	V _{CE} = 1200 V, V _{GE} = 0
Gate to emitter leak current	I _{GES}	—	—	±0.1	μA	V _{GE} = ±30 V, V _{CE} = 0
Gate to emitter cutoff voltage	V _{GE(off)}	4.5	6.5	8.5	V	V _{CE} = 10V, I _C = 1 mA
Collector to emitter saturation voltage	V _{CE(sat)}	—	1.95	2.4	V	I _C = 25 A, V _{GE} = 15V ^{Note2}
		—	2.5	—	V	I _C = 50 A, V _{GE} = 15V ^{Note2}
Input capacitance	C _{ies}	—	1830	—	pF	V _{CE} = 25 V
Output capacitance	C _{oes}	—	36	—	pF	V _{GE} = 0 V
Reverse transfer capacitance	C _{res}	—	28	—	pF	f = 1 MHz
C-E diode forward voltage	V _F	—	2.8	3.6	V	I _F = 25 A ^{Note2}

Notes: 2. Pulse test

Package Dimensions



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