RJQ6022DPM

600V - 10A - IGBT
High Speed Power Switching

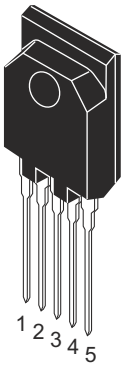
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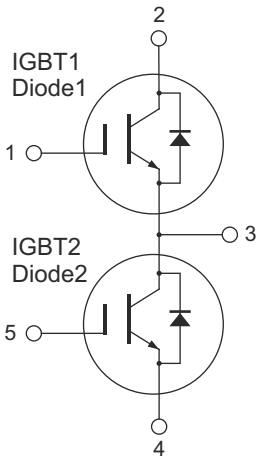
Features

- High speed switching
- Low on-state voltage
- Built in fast recovery diode in one package

Outline

RENESAS Package code: PRSS0005ZB-A)
(Package name: TO-3PFM)





1. Gate (1)
2. Collector (1)
3. Emitter (1), Collector (2)
4. Emitter (2)
5. Gate (2)

Absolute Maximum Ratings

IGBT1, IGBT2 (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	20	A
	Tc = 100°C	I_C	10	A
Collector peak current		$I_{C(peak)}$ Note1	40	A
Junction temperature		Tj	150	°C
Storage temperature		Tstg	–55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%
2. PW ≤ 5 μs, duty cycle ≤ 1%

Diode1, Diode2 (Ta = 25°C)

Item	Symbol	Ratings	Unit
Maximum reverse voltage	V_{RM}	600	V
Continuous forward current	I_F	10	A
Peak surge forward current	I_{FSM}	20	A
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics

IGBT1, IGBT2

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I_{CES} / I_R	—	—	20	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	$V_{GE(off)}$	5.5	—	7.5	V	V_{CE} = 10 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.4	2.0	V	I_C = 10 A, V_{GE} = 15 V Note3
	$V_{CE(sat)}$	—	2.0	—	V	I_C = 20 A, V_{GE} = 15 V Note3
Short circuit withstand time	t_{sc}	—	6	—	μs	V_{CC} ≤ 360 V , V_{GE} = 15 V Tc = 100 °C

Notes: 3. Pulse test.

Diode1, Diode2

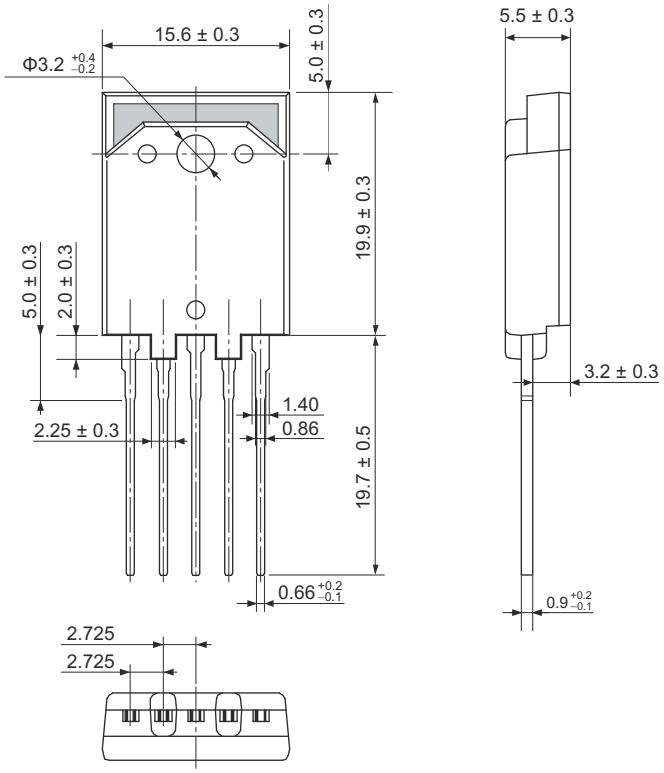
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Forward voltage	V_F	—	1.5	2.0	V	I_F = 10 A
Reverse current	I_R	—	—	10	μA	V_R = 600 V
Reverse recovery time	t_{rr}	—	15	—	ns	I_F = 10 A, di/dt = –300A/μs

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-3PFM	SC-93	PRSS0005ZB-A	TO-3PFM / TO-3PFM-5	5.3g

Unit: mm



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