

RJP6065DPM

Silicon N Channel IGBT
High Speed Power Switching

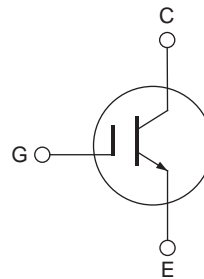
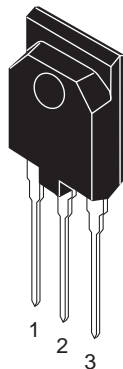
R07DS0204EJ0100
Rev.1.00
Nov 19, 2010

Features

- Low collector to emitter saturation voltage
 $V_{CE(sat)} = 1.8 \text{ V typ. (} I_C = 40 \text{ A, } V_{GE} = 15\text{V, } T_a = 25^\circ\text{C)}$
- Gate to emitter voltage rating $\pm 30 \text{ V}$
- Pb-free lead plating and chip bonding

Outline

RENESAS Package code: PRSS0003ZA-A
(Package name: TO-3PFM)



1. Gate
2. Collector
3. Emitter

Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit
Collector to emitter voltage	V_{CES}	630	V
Gate to emitter voltage	V_{GES}	± 30	V
Collector current	I_C ^{Note1}	40	A
Collector peak current	$i_C(\text{peak})$ ^{Note1}	100	A
Collector dissipation	P_C	50	W
Junction to case thermal impedance	θ_{j-c}	2.5	$^\circ\text{C/W}$
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

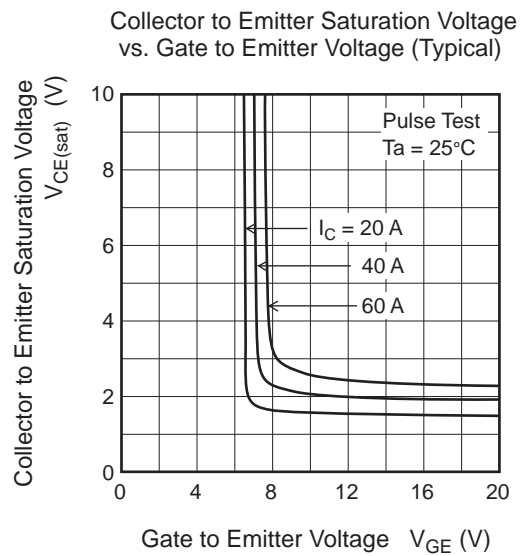
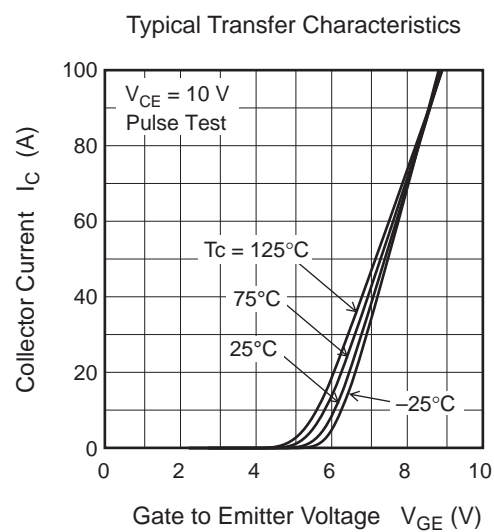
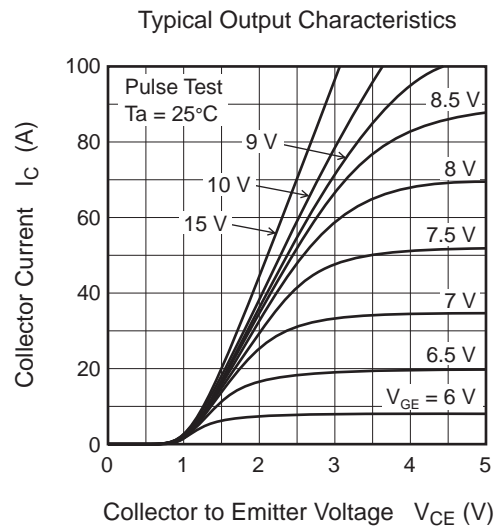
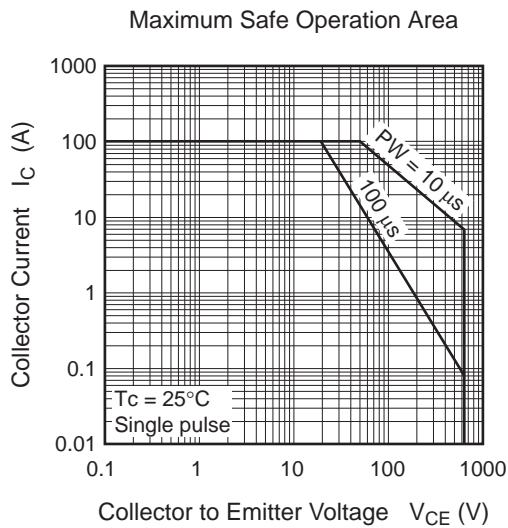
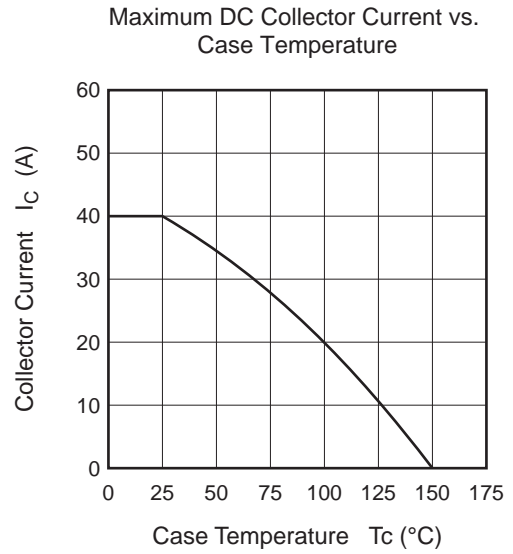
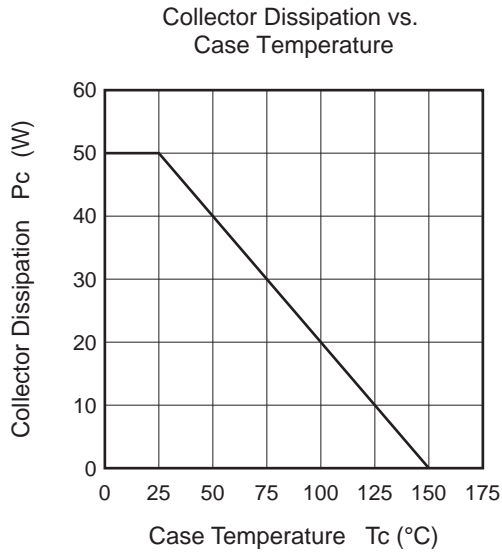
Electrical Characteristics

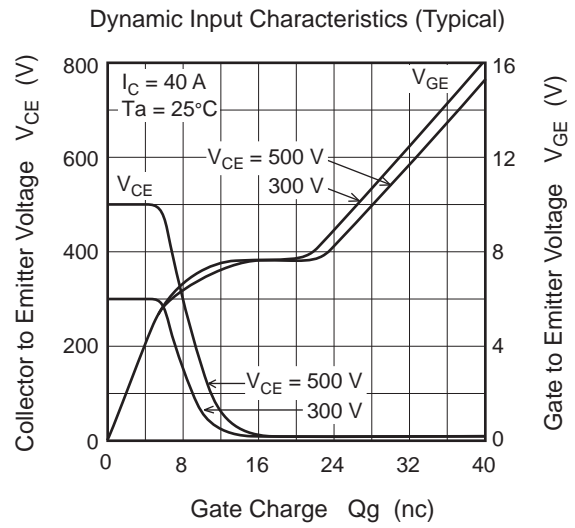
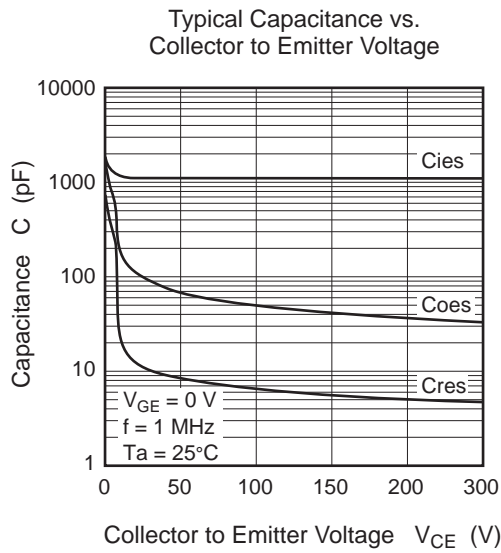
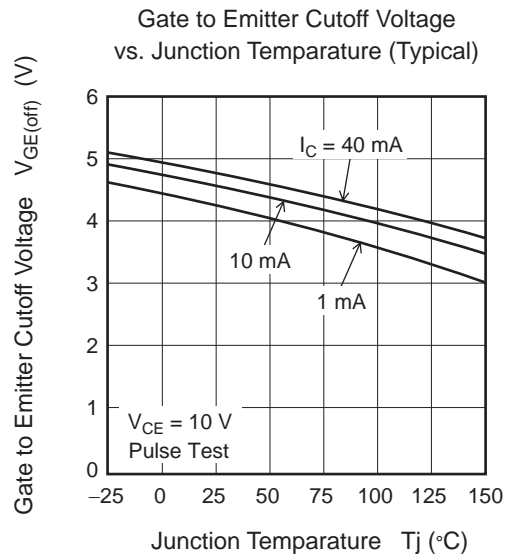
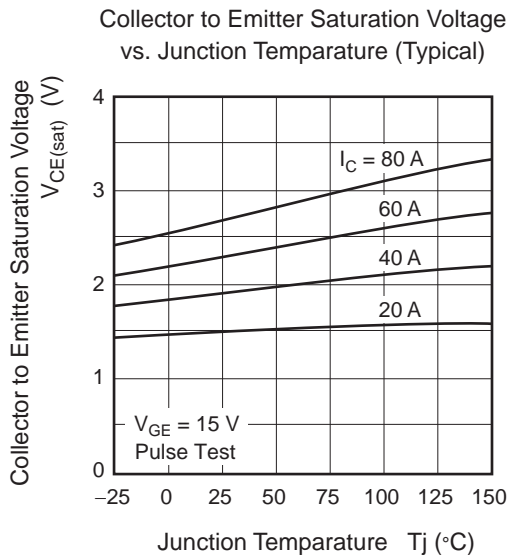
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I_{CES}	—	—	1	μA	$V_{CE} = 630 \text{ V}, V_{GE} = 0$
Gate to emitter leak current	I_{GES}	—	—	± 100	nA	$V_{GE} = \pm 30 \text{ V}, V_{CE} = 0$
Gate to emitter cutoff voltage	$V_{GE(off)}$	3	—	5.5	V	$V_{CE} = 10 \text{ V}, I_C = 1 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.8	2.3	V	$I_C = 40 \text{ A}, V_{GE} = 15 \text{ V}$ ^{Note2}
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.5	—	V	$I_C = 20 \text{ A}, V_{GE} = 15 \text{ V}$ ^{Note2}
Input capacitance	C_{ies}	—	1130	—	pF	$V_{CE} = 25 \text{ V}$
Output capacitance	C_{oes}	—	95	—	pF	$V_{GE} = 0$
Reveres transfer capacitance	C_{res}	—	10	—	pF	$f = 1 \text{ MHz}$
Switching time	$t_{d(on)}$	—	40	—	ns	$I_C = 40 \text{ A}, \text{Resistive Load}$ $R_L = 7.5 \Omega$ $V_{GE} = 15 \text{ V}$ $R_g = 5 \Omega$
	t_r	—	90	—	ns	
	$t_{d(off)}$	—	80	—	ns	
	t_f	—	450	—	ns	

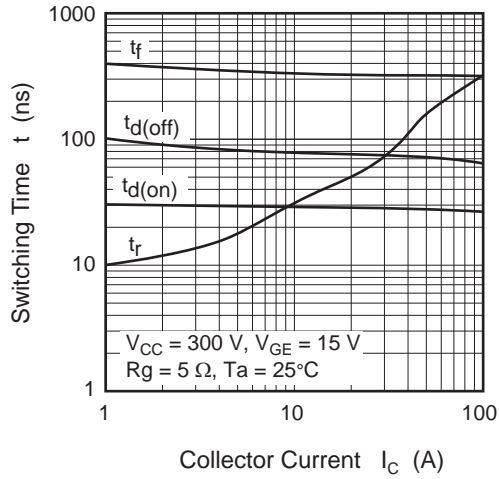
Notes: 2. Pulse test

Main Characteristics

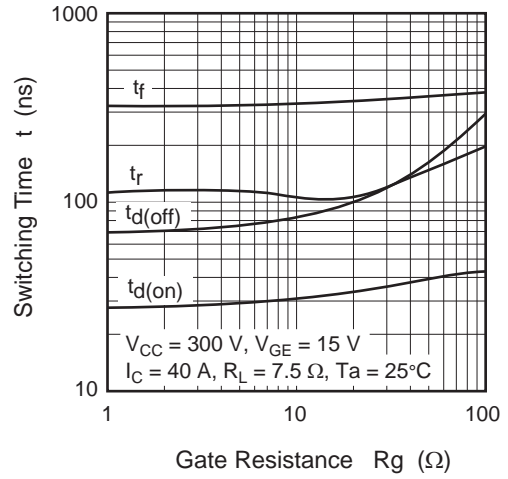




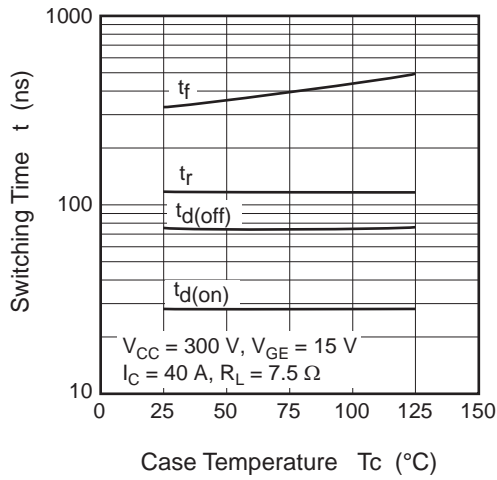
Switching Characteristics (Typical) (1)



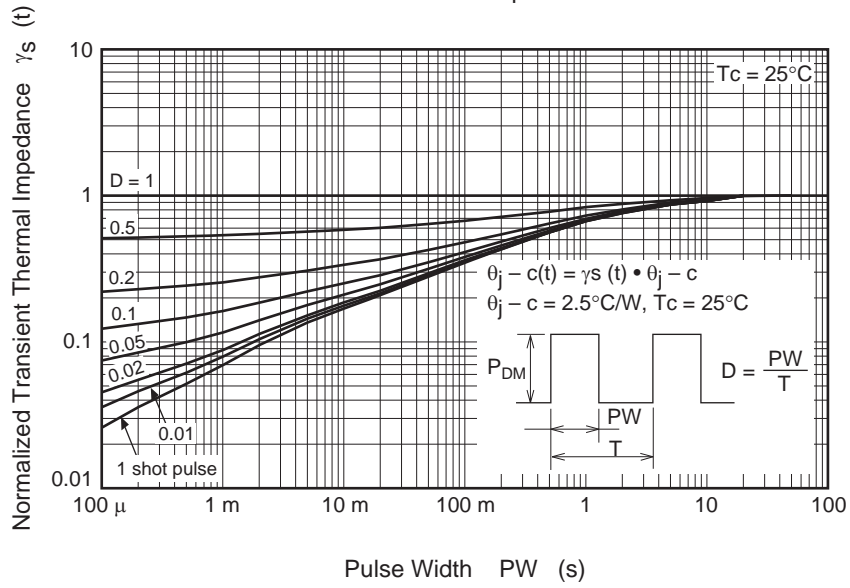
Switching Characteristics (Typical) (2)



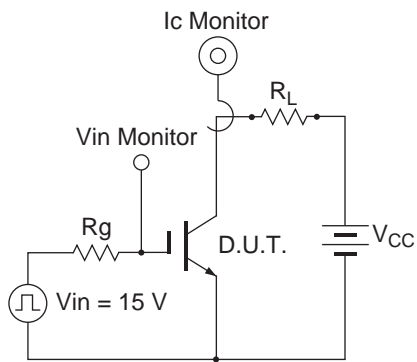
Switching Characteristics (Typical) (3)



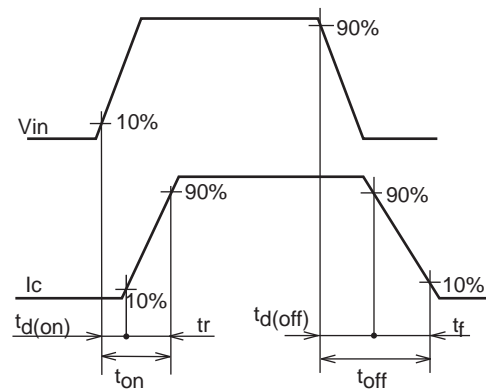
Normalized Transient Thermal Impedance vs. Pulse Width



Switching Time Test Circuit



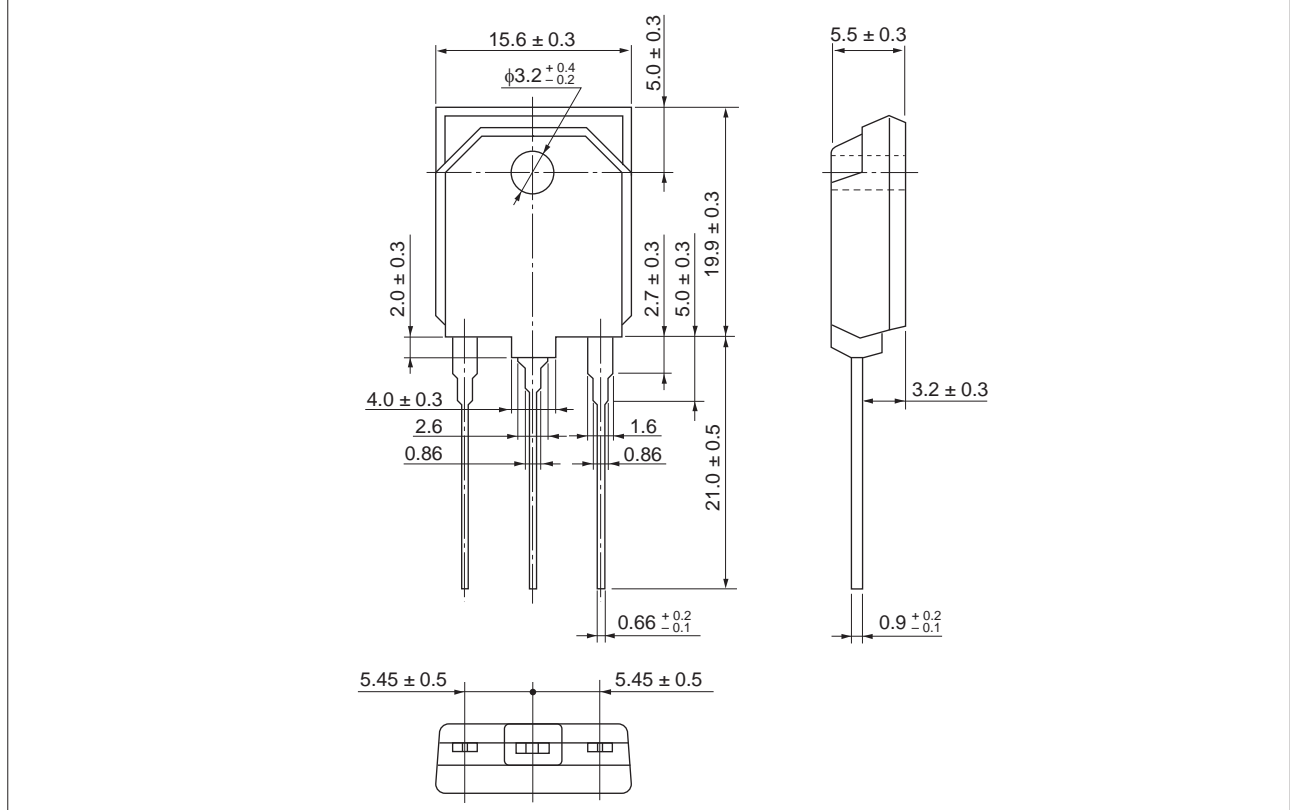
Waveform



Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-3PFM	SC-93	PRSS0003ZA-A	TO-3PFM / TO-3PFMV	5.2g

Unit: mm



Ordering Information

Orderable Part No.	Quantity	Shipping Container
RJP6065DPM-00-T1	360 pcs	Box (Tube)

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