RJP6085DPK

Silicon N Channel IGBT
High Speed Power Switching

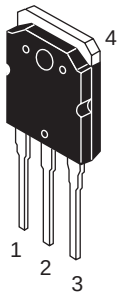
REJ03G1862-0100
Rev.1.00
Nov 09, 2009

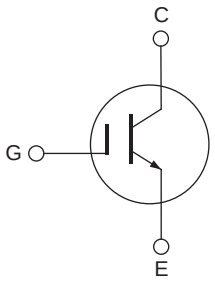
Features

- High speed switching
- Low collector to emitter saturation voltage

Outline

RENESAS Package code: PRSS0004ZE-A
(Package name: TO-3P)





1. Gate
2. Collecotor
3. Emitter
4. Collector (Flange)

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to Emitter voltage	V_{CES}	600	V
Gate to Emitter voltage	V_{GES}	±30	V
Collector current	I_C	40	A
Collector peak current	$I_{C(peak)}$ Note1	80	A
Collector dissipation	P_C Note2	178.5	W
Junction to case thermal impedance	$\theta j\text{-}c$ Note2	0.7	°C/W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. Pulse width limited by safe operating area.
2. Value at Tc = 25°C

Electrical Characteristics

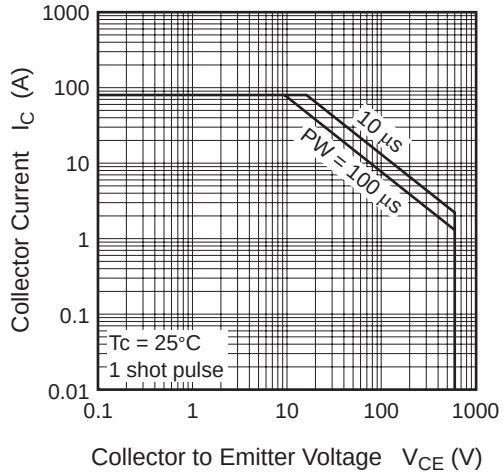
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I_{CES}	—	—	10	μA	V_{CE} = 600V, V_{GE} = 0 V
Gate to emitter leak current	I_{GES}	—	—	±1	μA	V_{GE} = ±30 V, V_{CE} = 0 V
Gate to emitter cutoff voltage	$V_{GE(off)}$	4	—	6	V	V_{CE} = 10V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	2.65	3.5	V	I_C = 40 A, V_{GE} = 15V Note3
Input capacitance	Cies	—	1150	—	pF	V_{CE} = 25V
Output capacitance	Coes	—	105	—	pF	V_{GE} = 0 V
Reveres transfer capacitance	Cres	—	12	—	pF	f = 1MHz
Switching time	$t_{d(on)}$	—	30	—	ns	I_C = 40 A, Resistive Load
	t_r	—	60	—	ns	V_{CC} = 300V
	$t_{d(off)}$	—	60	—	ns	V_{GE} = 15V
	t_f	—	40	—	ns	Rg = 5 Ω

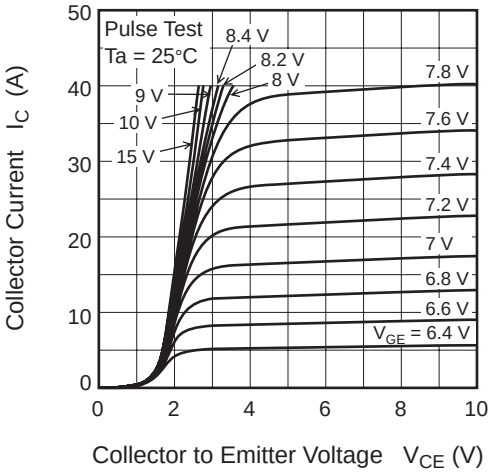
Notes: 3. Pulse test

Main Characteristics

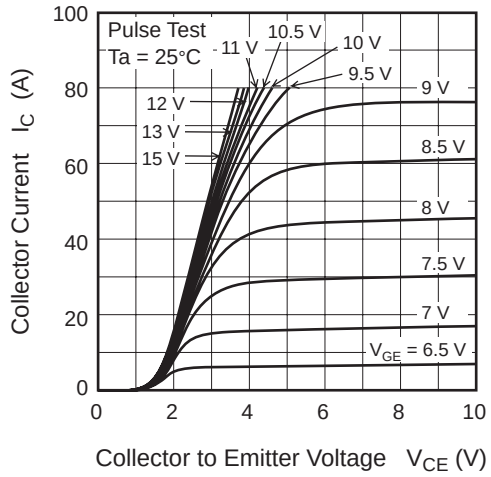
Maximum Safe Operation Area



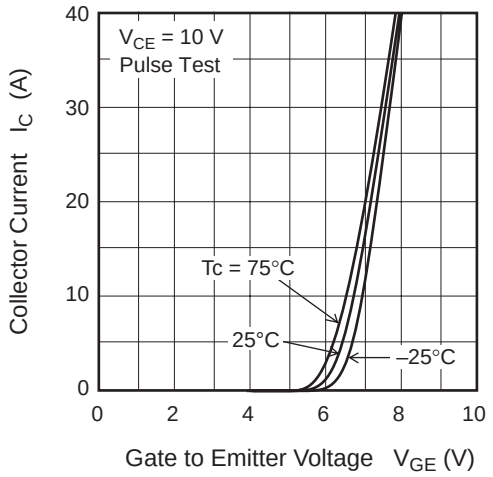
Typical Output Characteristics (1)



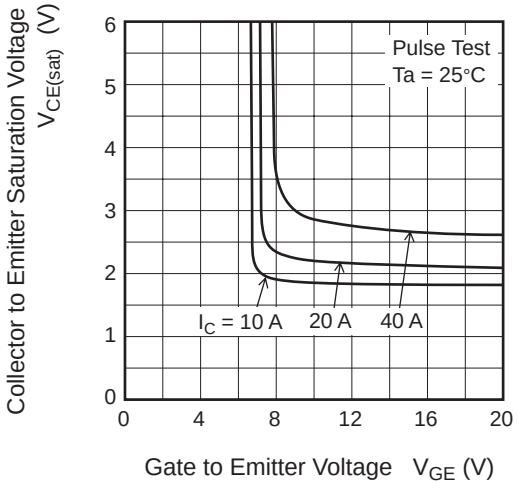
Typical Output Characteristics (2)



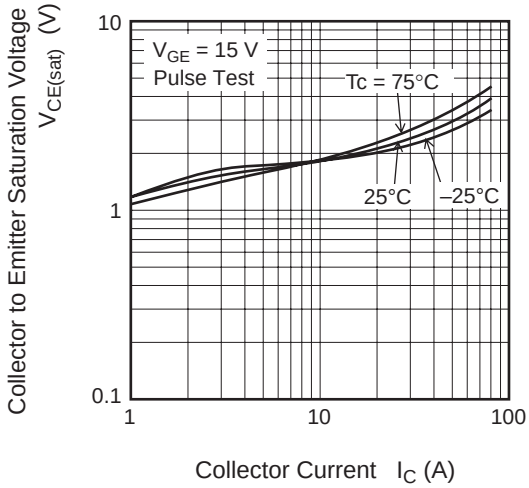
Typical Transfer Characteristics



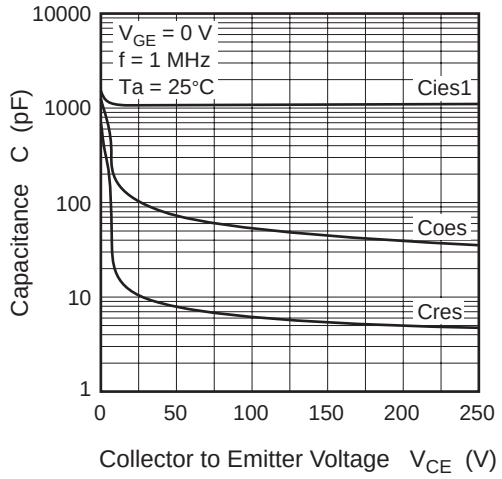
Collector to Emitter Saturation Voltage vs. Gate to Emitter Voltage (Typical)



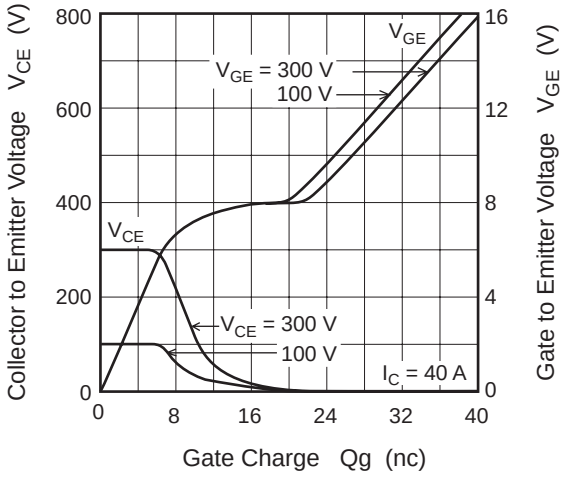
Collector to Emitter Saturation Voltage vs. Collector Current (Typical)



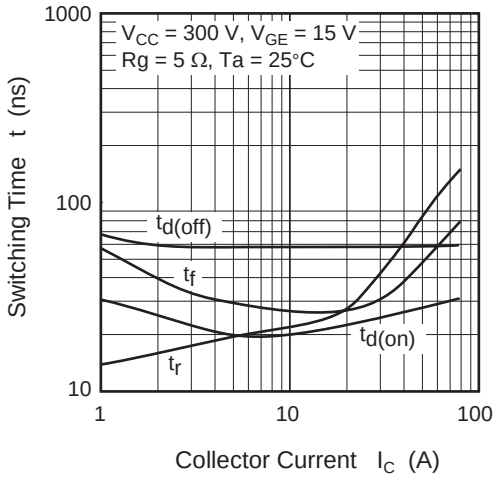
Typical Capacitance vs.
Collector to Emitter Voltage



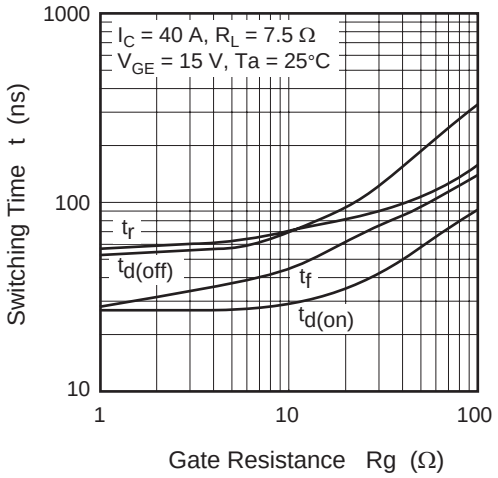
Dynamic Input Characteristics (Typical)



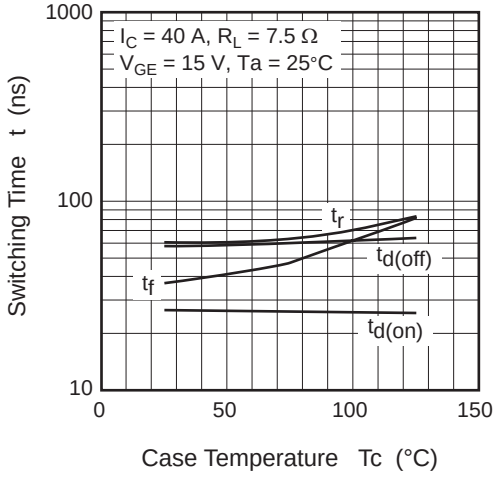
Switching Characteristics (Typical) (1)



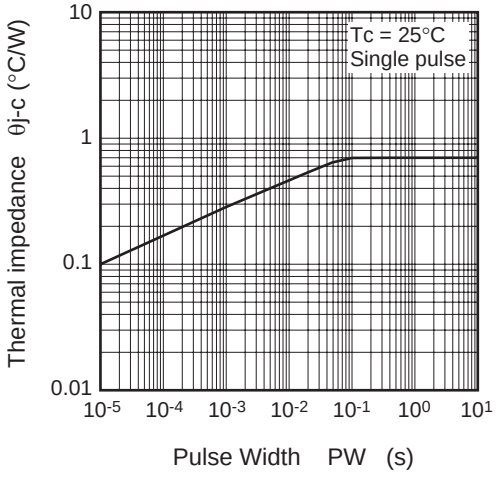
Switching Characteristics (Typical) (2)



Switching Characteristics (Typical) (3)



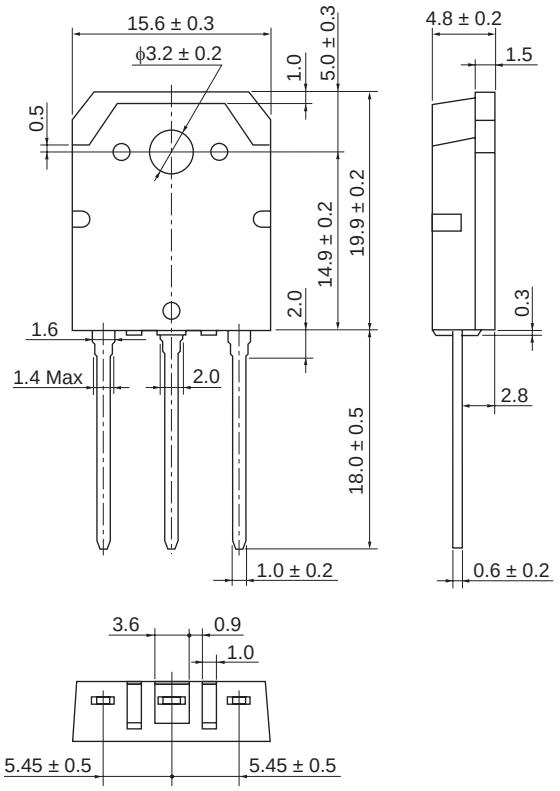
Transient Thermal Impedance vs. Pulse Width



Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-3P	SC-65	PRSS0004ZE-A	TO-3P / TO-3PV	5.0g

Unit: mm



Ordering Information

Part No.	Quantity	Shipping Container
RJK6085DPK-00-T0	360 pcs	Box (Tube)

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

RENESAS SALES OFFICES

http://www.renesas.com

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

Renesas Technology America, Inc.
450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology (Shanghai) Co., Ltd.
Unit 204, 205, AZIACenter, No.1233 Lujiazui Ring Rd, Pudong District, Shanghai, China 200120
Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7858/7898

Renesas Technology Hong Kong Ltd.
7th Floor, North Tower, World Finance Centre, Harbour City, Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2377-3473

Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 3518-3399

Renesas Technology Singapore Pte. Ltd.
1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

Renesas Technology Malaysia Sdn. Bhd
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510

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