

RJP65S08DWA / RJP65S08DWS

650V - 200A - IGBT

Application: Inverter

R07DS0825EJ0400

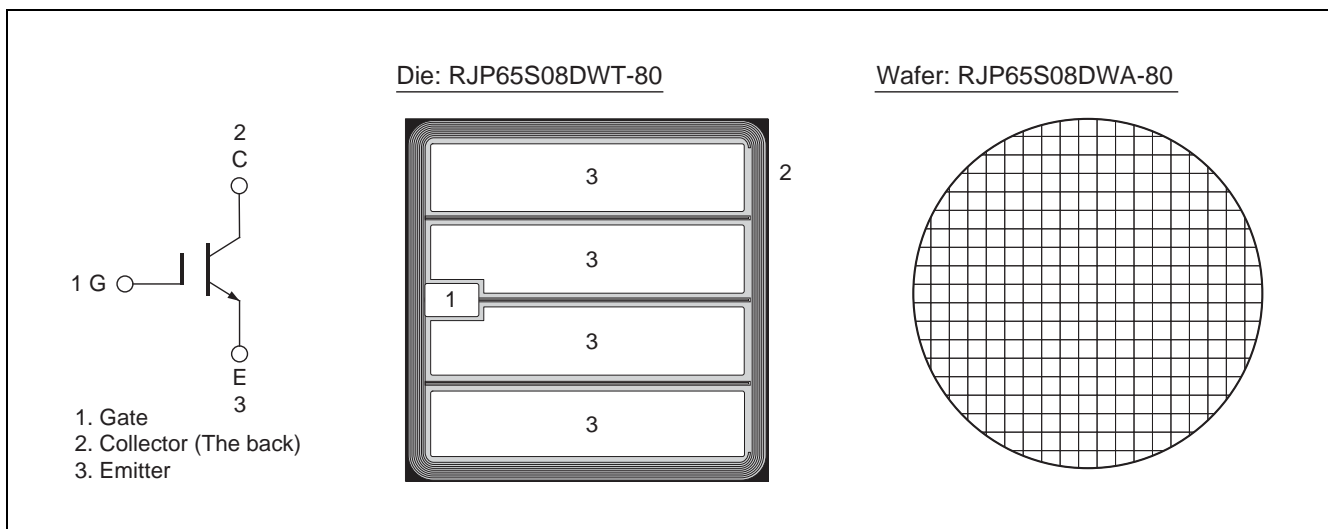
Rev.4.00

Nov. 06, 2015

Features

- Low collector to emitter saturation voltage
 $V_{CE(sat)} = 1.5 \text{ V typ. (at } I_C = 200 \text{ A, } V_{GE} = 15 \text{ V, } T_c = 25^\circ\text{C)}$
- High speed Switching
- Short circuit withstands time (10 $\mu\text{s min.}$)

Outline



Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit	
Collector to emitter voltage	V_{CES}	650	V	
Gate to emitter voltage	V_{GES}	± 30	V	
Collector current	$T_c = 25^\circ\text{C}$	I_c	400	A
	$T_c = 100^\circ\text{C}$	I_c	200	A
Junction temperature	T_j	175 ^{Note1}	$^\circ\text{C}$	

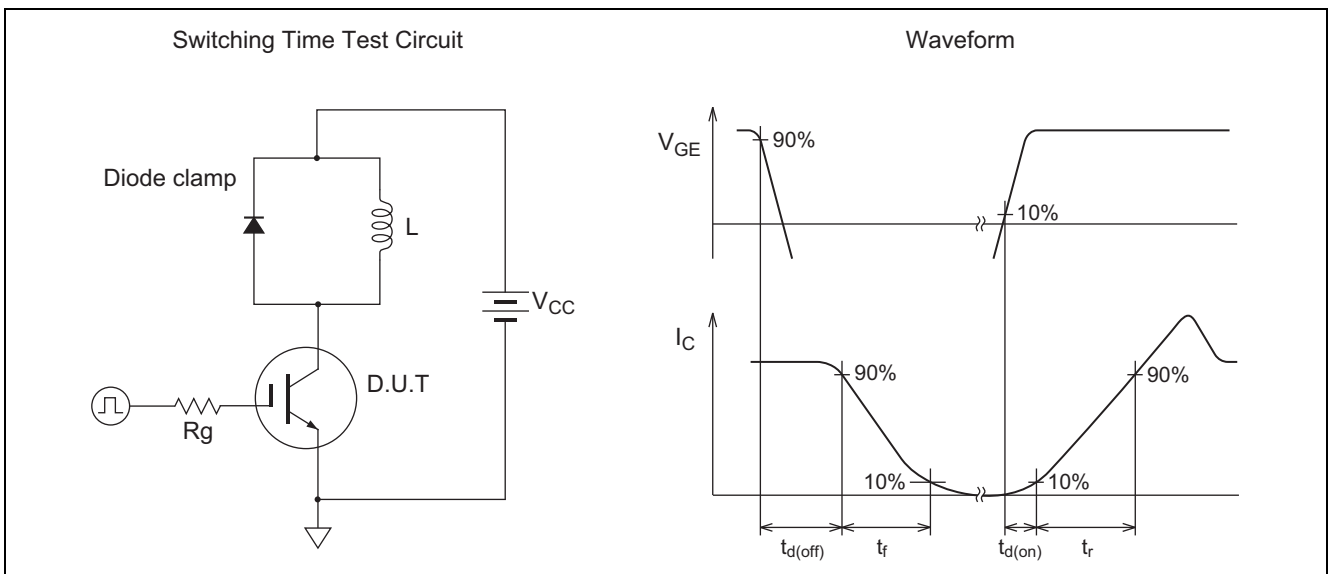
Notes: 1. Please use this device in the thermal conditions where the junction temperature does not exceed 175°C .
 IGBT Application Note is disclosed about reliability test and application condition up to $T_j = 175^\circ\text{C}$.

Electrical Characteristics (Datas below are measured values on a package configuration.)

(Tc = 25°C unless otherwise noted)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage collector current	I_{CES}	—	—	1	μA	$V_{CE} = 650 V, V_{GE} = 0$
Gate to emitter leak current	I_{GES}	—	—	± 1	μA	$V_{GE} = \pm 30 V, V_{CE} = 0$
Gate to emitter cutoff voltage	$V_{GE(off)}$	5.0	—	6.8	V	$V_{CE} = 10 V, I_C = 4 mA$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	1.5	1.8	V	$I_C = 200 A, V_{GE} = 15 V$ ^{Note2}
Input capacitance	C_{ies}	—	17000	—	nF	$V_{CE} = 25 V$
Output capacitance	C_{oes}	—	700	—	nF	$V_{GE} = 0$
Reveres transfer capacitance	C_{res}	—	600	—	nF	$f = 1 MHz$
Total gate charge	Q_g	—	920	—	nC	$V_{GE} = 15 V$
Gate to emitter charge	Q_{ge}	—	150	—	nC	$V_{CE} = 300 V$
Gate to collector charge	Q_{gc}	—	470	—	nC	$I_C = 200 A$
Switching time ^{Note3}	$t_{d(on)}$	—	120	—	ns	$V_{CC} = 300 V$
	t_r	—	140	—	ns	$I_C = 200 A$
	$t_{d(off)}$	—	600	—	ns	$V_{GE} = \pm 15 V$
	t_f	—	80	—	ns	$R_g = 10 \Omega, T_c = 150^\circ C$ Inductive load
Short circuit withstand time ^{Note4}	t_{sc}	10	—	—	μs	$V_{CC} \leq 360 V, V_{GE} = 15 V$ $T_c = 150^\circ C$

- Notes: 2. Pulse test.
 3. Switching time test circuit and waveform are shown below.
 4. Guaranteed by design.



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Renesas Electronics America Inc.
2801 Scott Boulevard Santa Clara, CA 95050-2549, U.S.A.
Tel: +1-408-588-6000, Fax: +1-408-588-6130

Renesas Electronics Canada Limited
9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3
Tel: +1-905-237-2004

Renesas Electronics Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K
Tel: +44-1628-585-100, Fax: +44-1628-585-900

Renesas Electronics Europe GmbH
Arcadiastrasse 10, 40472 Düsseldorf, Germany
Tel: +49-211-6503-0, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.
Room 1709, Quantum Plaza, No.27 ZhichunLu Haidian District, Beijing 100191, P.R.China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd.
Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, P. R. China 200333
Tel: +86-21-2226-0888, Fax: +86-21-2226-0899

Renesas Electronics Hong Kong Limited
Unit 1601-1611, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2265-8688, Fax: +852-2886-9022

Renesas Electronics Taiwan Co., Ltd.
13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan
Tel: +886-2-8175-9600, Fax: +886-2-8175-9670

Renesas Electronics Singapore Pte. Ltd.
80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949
Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd.
Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jin Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

Renesas Electronics India Pvt. Ltd.
No.777C, 100 Feet Road, HAL II Stage, Indiranagar, Bangalore, India
Tel: +91-80-67208700, Fax: +91-80-67208777

Renesas Electronics Korea Co., Ltd.
12F., 234 Teheran-ro, Gangnam-Gu, Seoul, 135-080, Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5141