

RJP4003ANS

Nch IGBT for Strobe Flash

REJ03G1474-0200

Rev.2.00

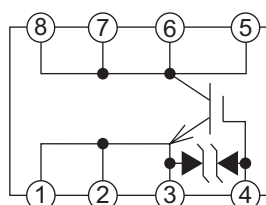
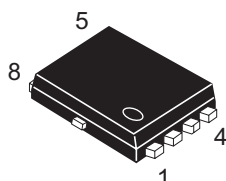
Nov 10, 2008

Features

- Ultra small surface mount package (VSON-8)
- V_{CES} : 400 V
- I_{CM} : 150 A
- Drive voltage: 4 V

Outline

RENESAS Package code: PVSN0008JA-A
(Package name: VSON-8<TNP-8DBV>)



1, 2, 3 : Emitter
4 : Gate
5, 6, 7, 8 : Collector

Applications

Strobe flash for cameras

Maximum Ratings

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

Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	400	V	$V_{GE} = 0 \text{ V}$
Gate-emitter voltage	V_{GES}	± 6	V	$V_{CE} = 0 \text{ V}$
Peak gate-emitter voltage	V_{GEM}	± 8	V	$V_{CE} = 0 \text{ V}$, $t_w = 10 \text{ s}$
Collector current (Pulse)	I_{CM}	150	A	$C_M = 400 \mu\text{F}$ (see performance curve)
Junction temperature	T_j	-40 to $+150$	$^\circ\text{C}$	
Storage temperature	T_{stg}	-40 to $+150$	$^\circ\text{C}$	

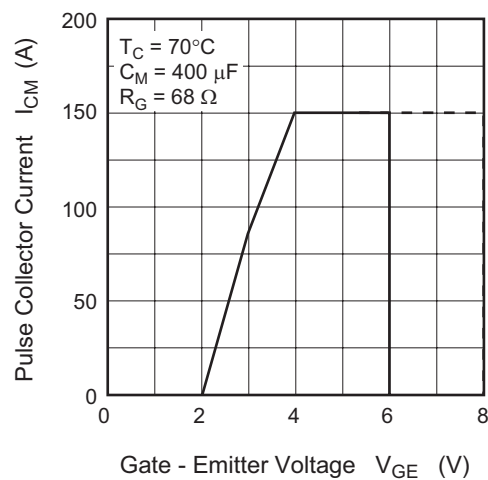
Electrical Characteristics

(T_j = 25°C)

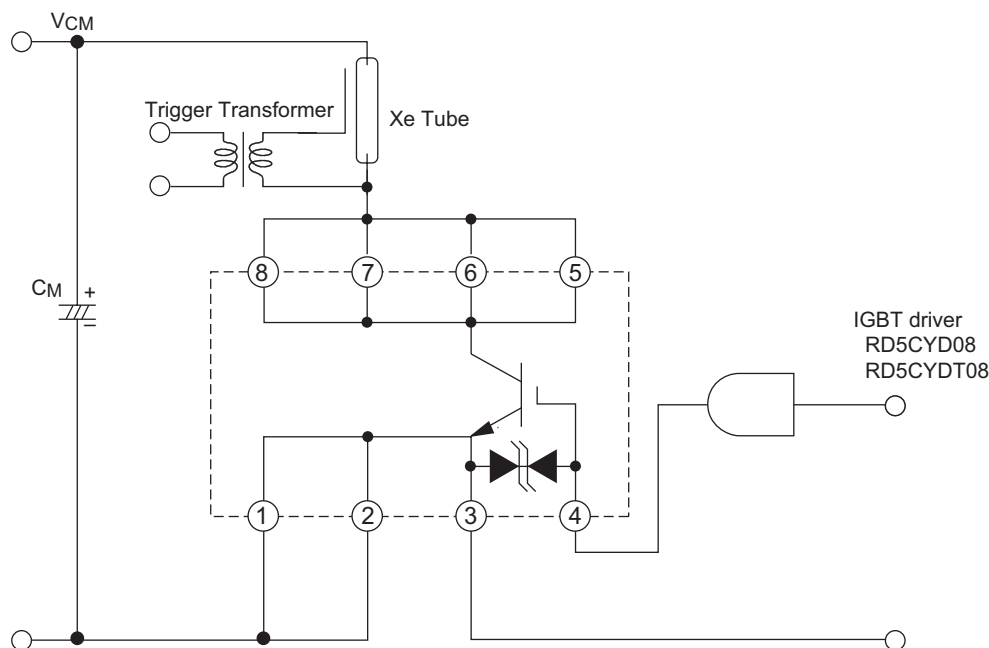
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	V _{(BR)CES}	450	—	—	V	I _C = 1 mA, V _{GE} = 0 V
Collector-emitter leakage current	I _{CES}	—	—	10	μA	V _{CE} = 400 V, V _{GE} = 0 V
Gate-emitter leakage current	I _{GES}	—	—	±10	μA	V _{GE} = ±6 V, V _{CS} = 0 V
Gate-emitter threshold voltage	V _{GE(th)}	0.5	0.7	1.5	V	V _{CE} = 10 V, I _C = 1 mA
Collector-emitter saturation voltage	V _{CE(sat)}	—	5.0	10.0	V	I _C = 150 A, V _{GE} = 4 V
Input capacitance	C _{ies}	—	5000	—	pF	V _{CE} = 25 V, V _{GE} = 10 V, f = 1 MHz

Performance Curves

Maximum Pulse Collector Current
(Conductive Capability in Strobe Flash Applications)



Application Example

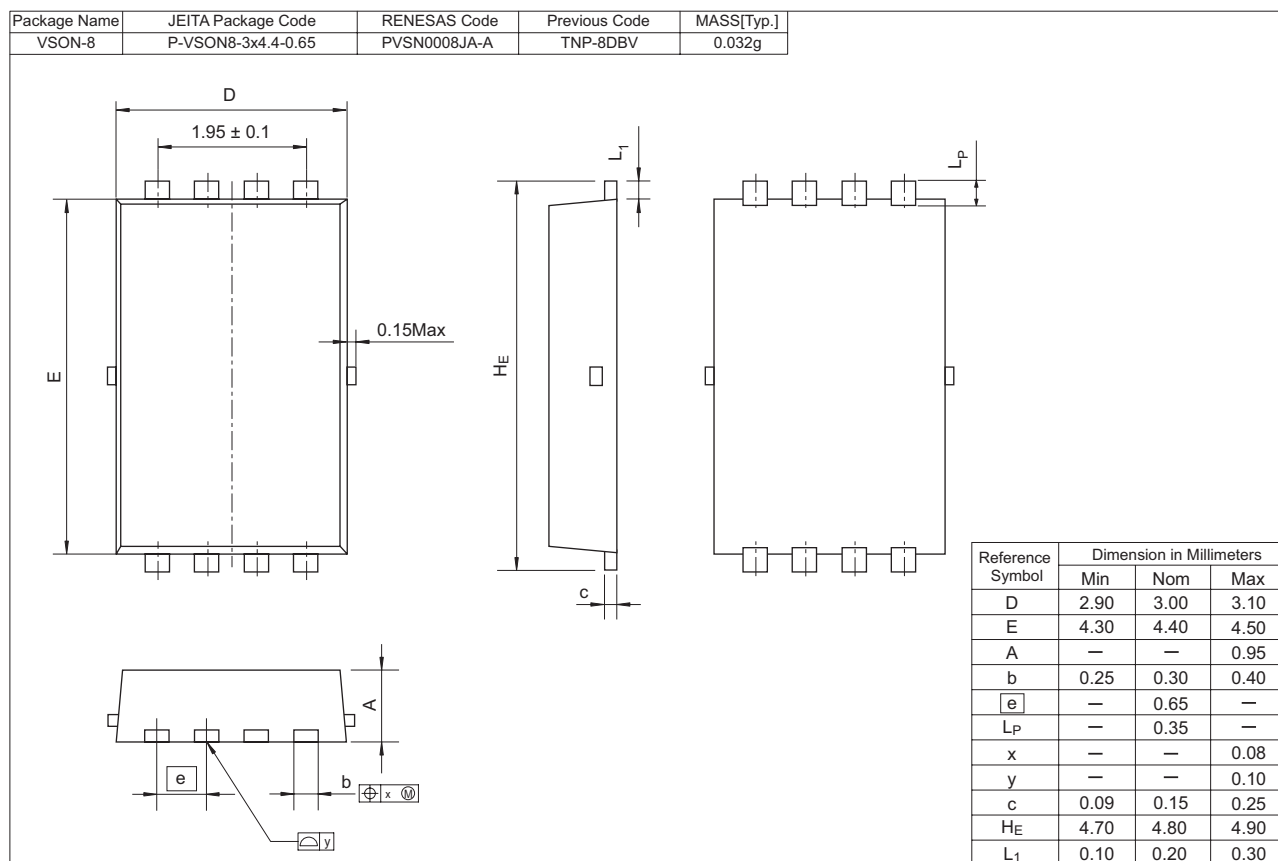


	Recommended Operation Conditions	Maximum Operation Conditions
V_{CM}	330 V	350 V
I_{CP}	130 A	150 A
C_M	330 μ F	400 μ F
V_{GE}	5 V	4 V

Precautions on Usage

1. IGBT has MOS structure and its gate is insulated by thin silicon oxide. So please handle carefully to protect the device from electrostatic charge.
2. Gate drive voltage during on-period must be applied to satisfy the rating of maximum pulse collector current. And turn-off dv/dt must become less than 400 V/ μ s. In general, when $R_{G(off)} = 68 \Omega$, it is satisfied.
3. For safety use, we recommend that the ground of the drive signal is connected to pin 3.
4. The operation life should be endured until repeated discharge of 5,000 times under the charge current ($I_{Xe} \leq 150$ A : full luminescence condition) of main capacitor ($C_M = 400 \mu$ F). Repetition period under full luminescence condition is over 3 seconds.
5. Total operation hours applied to the gate-emitter voltage must be within 5,000 hours when V_{GE} is driven at 6 V.

Package Dimensions



Order Code

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Surface-mounted type	Taping	3000	Type name – 00 – Q1	RJP4003ANS-00-Q1

Note : Please confirm the specification about the shipping in detail.

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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, AZIA Center, 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