

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

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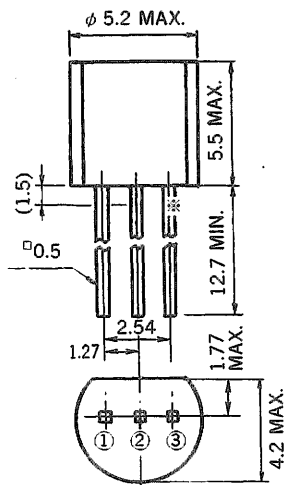
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0.8 A MOLD TRIAC

PACKAGE DIMENSIONS
(Unit : mm)

PIN CONNECTION

1. T₁ Terminal
2. Gate
3. T₂ Terminal

※ Measure point of Case Temperature

DESCRIPTION

The ACOV8DGM is all diffused type TRIAC granted RMS On-state Current 0.8 Amps, with rated voltages up to 400 volts.

This is designed specifically to be driven by low-level logic in any gating mode.

FEATURES

- The ACOV8DGM offers sensitive gate specs of 5 and 10 mA, in all four quadrants.
- You can fill the gap between microprocessor controls and the power-output requirements.
- This is housed in the popular TO-92 package.
- The package features excellent environmental stress and temperature cycling.

APPLICATIONS

Solid-state relays, microprocessor interfacing, TTL logic and various solid-state switch designs alone or with larger TRIAC.

MAXIMUM RATINGS

ITEM	SYMBOL	MAXIMUM RATINGS	UNIT	NOTE
Repetitive Peak off Voltage	V _{DRM}	400	V	
Non-repetitive Peak off Voltage	V _{DSM}	500	V	
RMS On-State Current	I _{T(RMS)}	0.8 (T _c = 68 °C)	A	Fig. 12, 13
Peak Surge On-State Current	I _{TSM}	7 (50 Hz), 8 (60 Hz)	A	Fig. 2
Fusing Current	i ² t	0.2 (1 ms ≤ t ≤ 10 ms)	A ² s	
Peak Gate Power Dissipation	P _{GM}	1	W	
Average Gate Power Dissipation	P _{G(AV)}	0.1	W	
Peak Gate Current	I _{GM}	±1	A	
Junction Temperature	T _j	125	°C	
Storage Temperature	T _{stg}	-55 to +150	°C	

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$)

ITEM		SYMBOL	TEST CONDITIONS		MIN.	TYP.	MAX.	UNIT	NOTE
Peak Off-State Current		I_{DRM}	$V_{DM} = V_{DRM}$	$T_j = 25^\circ\text{C}$	—	—	10	μA	
				$T_j = 125^\circ\text{C}$	—	—	100		
On-State Voltage		V_{TM}	$I_{TM} = 1.2\text{ A}$		—	—	1.5	V	Fig. 1
Critical Rate of Rise of Off-State Voltage		dv/dt	$T_j = 125^\circ\text{C}$, $V_{DM} = \frac{2}{3} V_{DRM}$ Gate Open Circuited Exponential Waveform		—	50	—	V/ μs	
*DC Gate Trigger Current	MODE I	I_{GT}	$V_{DM} = 12\text{ V}$ $R_L = 100\ \Omega$	G; Positive, T_2 ; Positive	—	—	5	mA	Fig. 4, 5
	II			G; Negative, T_2 ; Positive	—	—	10		
	III			G; Negative, T_2 ; Negative	—	—	5		
	IV			G; Positive, T_2 ; Negative	—	—	10		
DC Gate Trigger Voltage	MODE I	V_{GT}	$V_{DM} = 12\text{ V}$ $R_L = 100\ \Omega$	G; Positive, T_2 ; Positive	—	—	1.0	V	Fig. 4, 5
	II			G; Negative, T_2 ; Positive	—	—	1.5		
	III			G; Negative, T_2 ; Negative	—	—	1.0		
	IV			G; Positive, T_2 ; Negative	—	—	1.5		
Gate Non-Trigger Voltage		V_{GD}	$T_j = 125^\circ\text{C}$ $V_{DM} = \frac{1}{2} V_{DRM}$		0.1	—	—	V	
DC Holding Current		I_H	$V_D = 24\text{ V}$, $I_{TM} = 1\text{ A}$		—	5	10	mA	
Critical Rate of Rise of Commutating Off-State Voltage		$(dv/dt)_c$	$T_j = 125^\circ\text{C}$, $I_{TM} = 1.2\text{ A}$ $(di_T/dt)_c = -0.5\text{ A/ms}$ $V_{DM} = 400\text{ V}$		1	—	—	V/ μs	
Steady State		$R_{th(j-c)}$	Junction to Case		—	—	65	$^\circ\text{C/W}$	
Thermal Resistance		$R_{th(j-a)}$	Junction to Ambient		—	—	200	$^\circ\text{C/W}$	Fig. 14

* All four quadrants: 5 mA Max. Selected types available from factory.

Fig. 1 $i_T - V_T$ CHARACTERISTIC

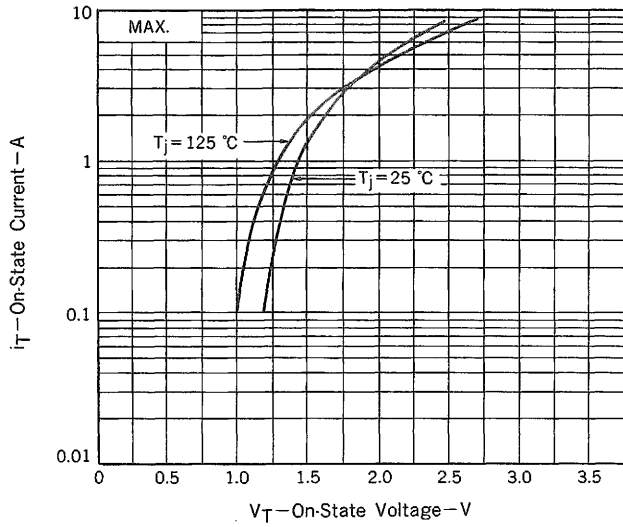


Fig. 2 I_{TSM} RATING

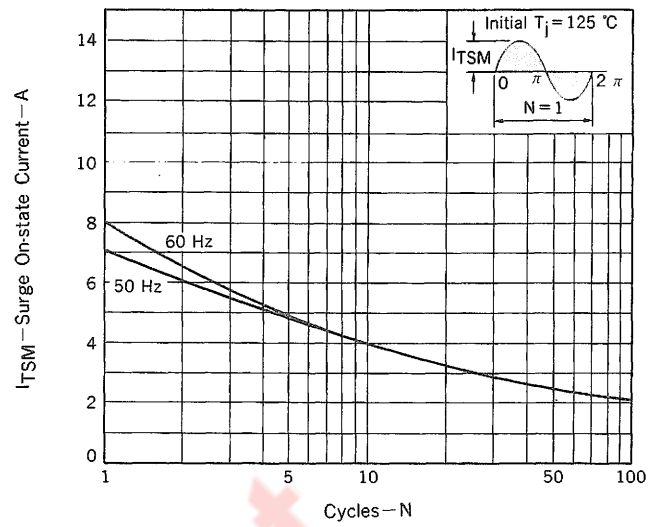


Fig. 3 $V_G - I_G$ RATING

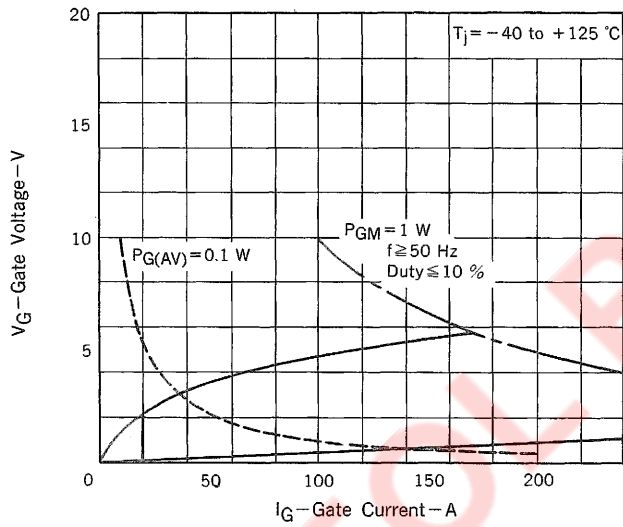


Fig. 4 GATE CHARACTERISTIC

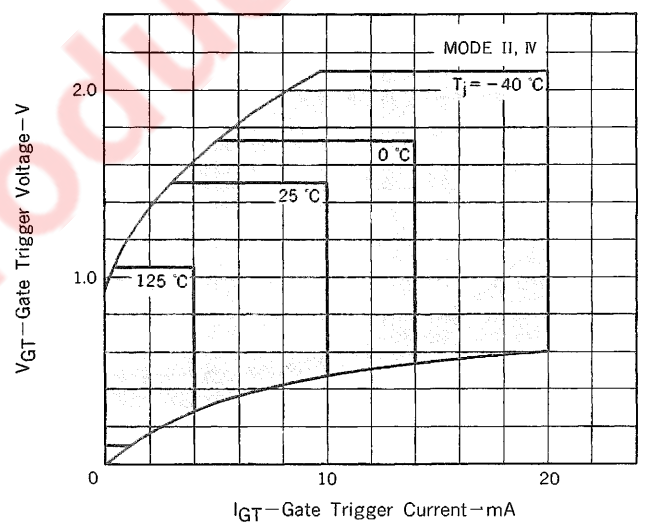


Fig. 5 GATE CHARACTERISTIC

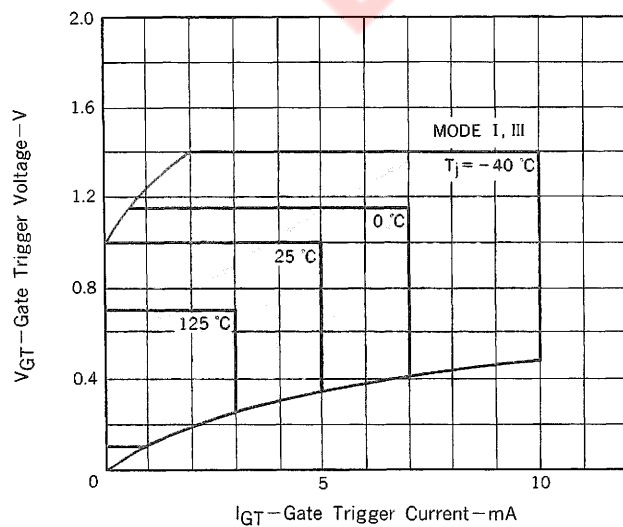


Fig. 6 $I_{GT} - T_a$ TYPICAL DISTRIBUTION

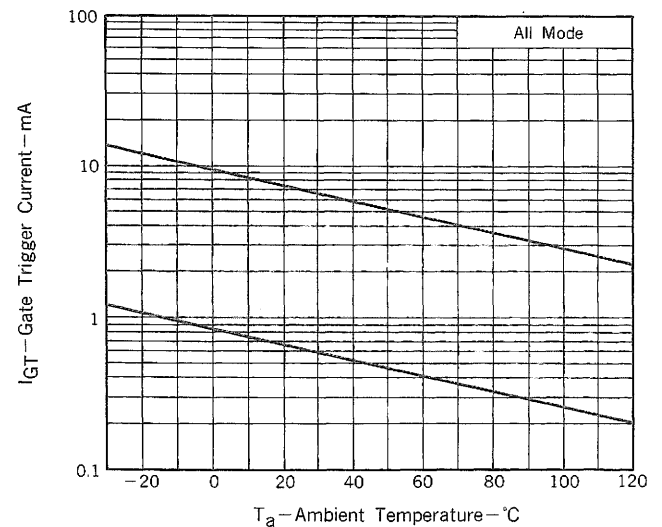


Fig. 7 $V_{GT} - T_a$ TYPICAL DISTRIBUTION

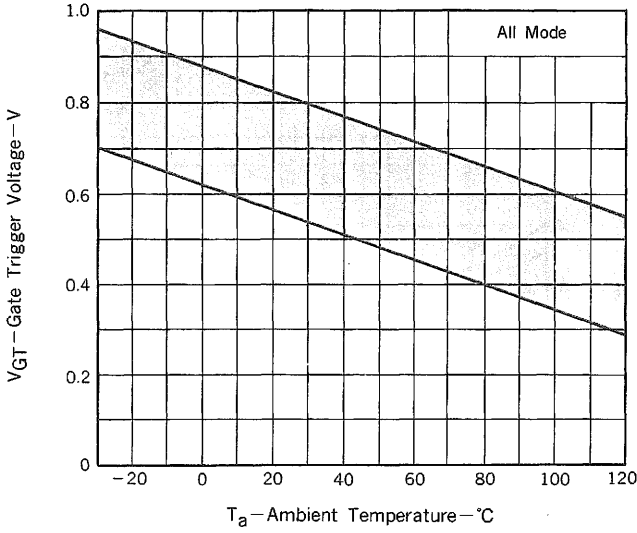


Fig. 8 $i_{GT} - \tau$ TYPICAL DISTRIBUTION

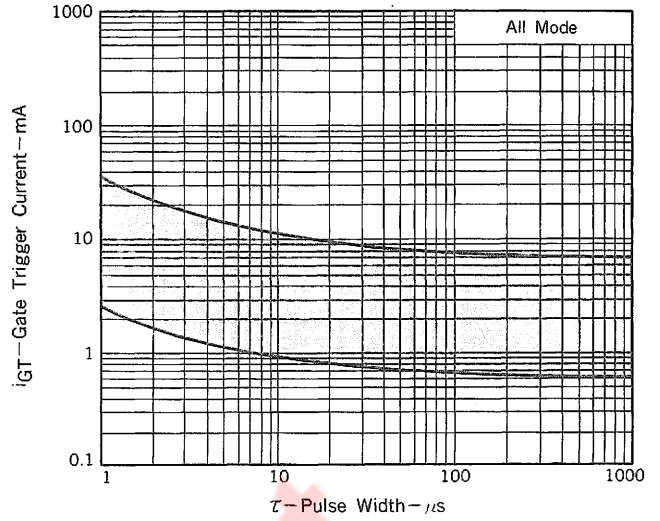


Fig. 9 $v_{GT} - \tau$ TYPICAL DISTRIBUTION

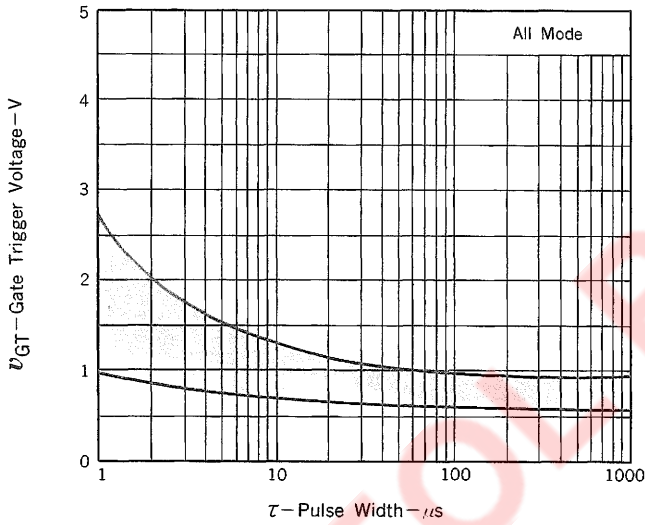


Fig. 10 $I_H - T_a$ TYPICAL DISTRIBUTION

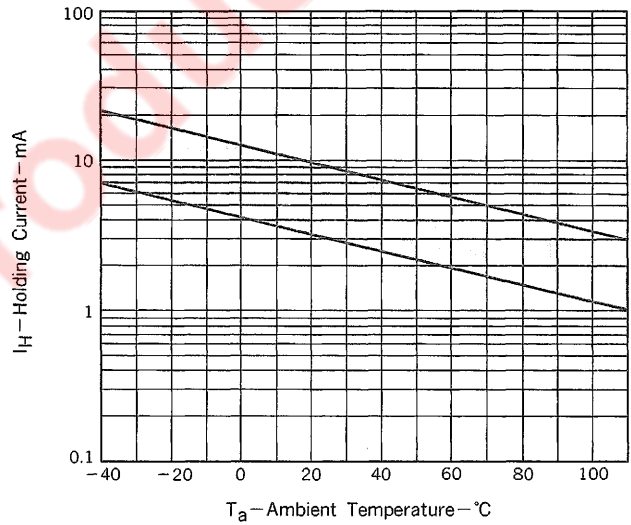


Fig. 11 $P_{T(AV)} - I_{T(RMS)}$ CHARACTERISTIC

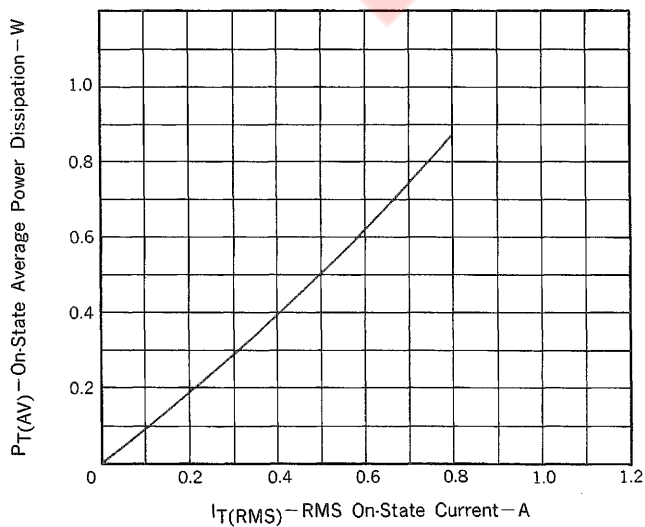


Fig. 12 $T_c - I_{T(RMS)}$ RATING

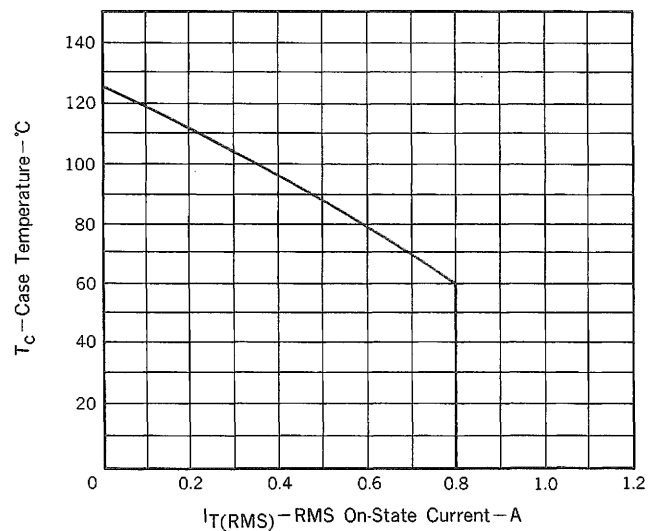


Fig. 13 $T_a - I_T(\text{RMS})$ RATING

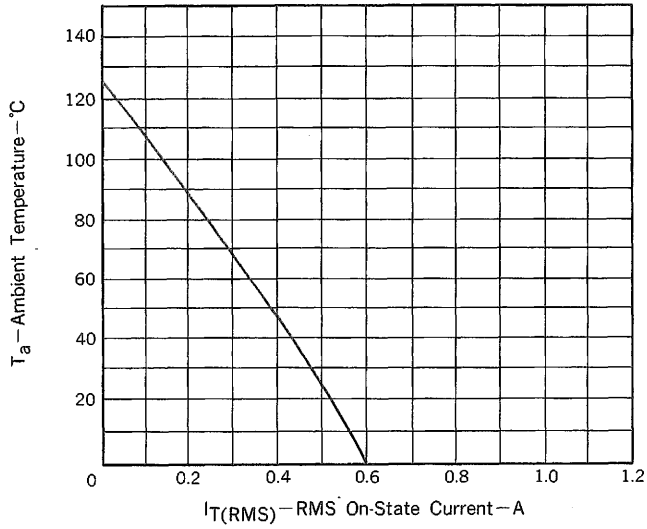
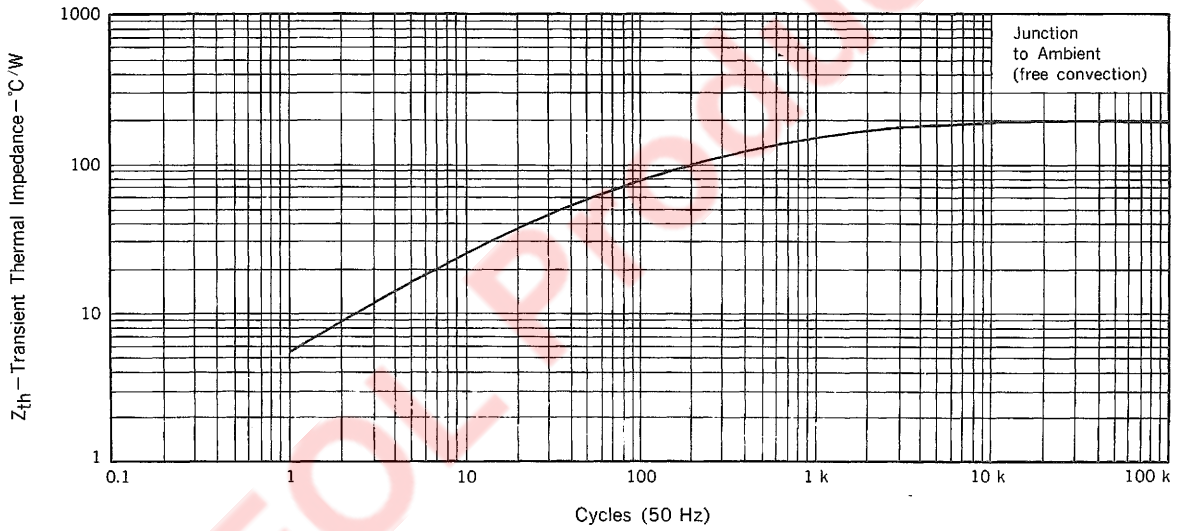


Fig. 14 Z_{th} CHARACTERISTIC



EOL Product