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CR2AS-16A

800V – 2A -Thyristor

Medium Power Use

R07DS1211EJ0100

Rev.1.00

Jun 03, 2014

Features

- $I_{T(AV)}$: 2 A
- V_{DRM} : 800 V
- I_{GT} : 100 μ A
- Non-Insulated Type
- Planar Type

Outline

RENESAS Package code: PRSS0004ZG-A
(Package name: MP-3A)



Applications

Earth leakage circuit breaker, Ignitor, Electric tools, etc.

Maximum Ratings

Parameter	Symbol	Voltage class	
		16	Unit
Repetitive peak reverse voltage	V_{RRM}	800	V
Non-repetitive peak reverse voltage	V_{RSM}	960	V
Repetitive peak off-state voltage ^{Note1}	V_{DRM}	800	V
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	960	V

Notes: 1. With gate to cathode resistance $R_{GK}=1k\Omega$

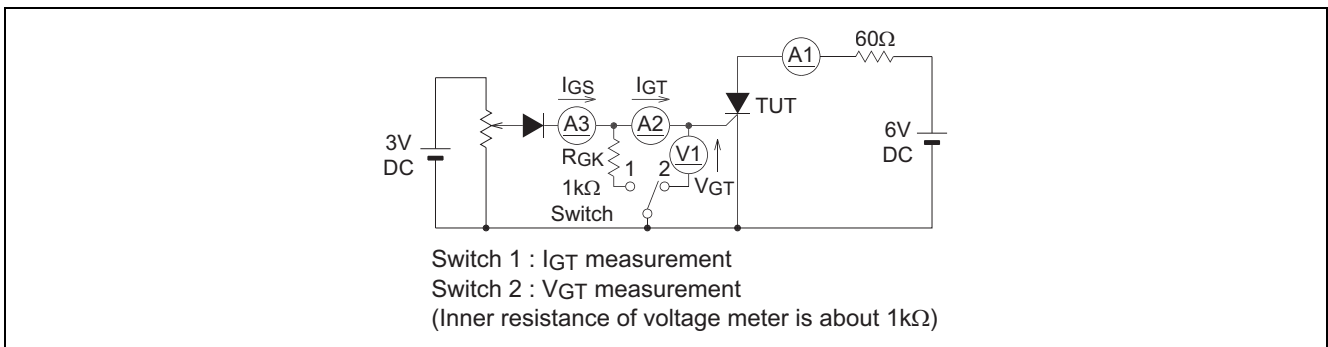
Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	3.1	A	
Average on-state current	$I_{T(AV)}$	2	A	Commercial frequency, sine half wave 180° conduction
Surge on-state current	I_{TSM}	20	A	60Hz sine half wave, 1full cycle, peak value, non-repetitive
I^2t for fusing	I^2t	1.6	A^2s	Value corresponding to 1cycle of half wave 60Hz, surge on-state current
Peak gate power dissipation	P_{GM}	0.5	W	
Average gate power dissipation	$P_{G(AV)}$	0.1	W	
Peak gate forward voltage	V_{FGM}	6	V	
Peak gate reverse voltage	V_{RGM}	6	V	
Peak gate forward current	I_{FGM}	0.3	A	
Junction temperature	T_j	- 40 to +125	°C	
Storage temperature	T_{stg}	- 40 to +125	°C	
Mass	—	0.32	g	Typical value

Electrical Characteristics

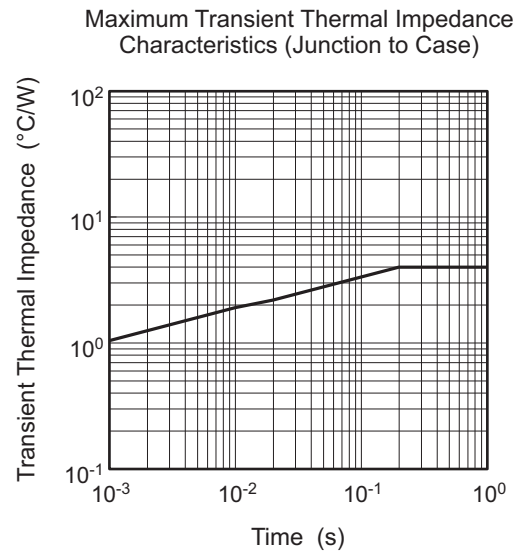
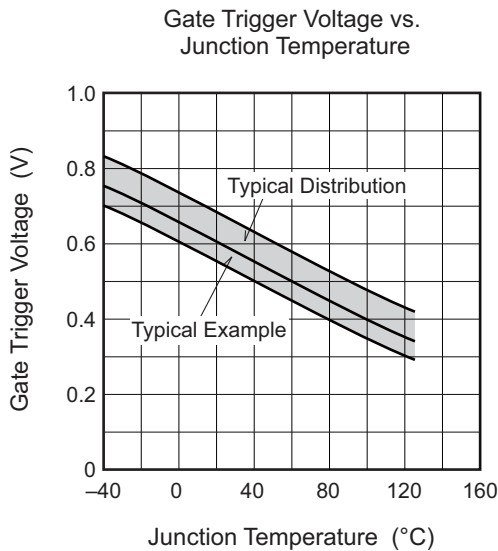
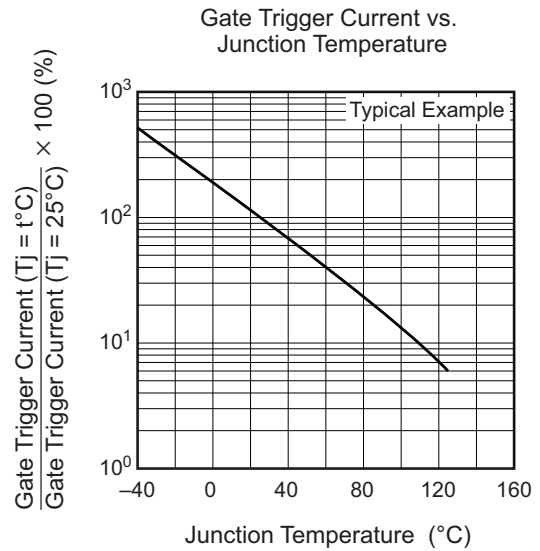
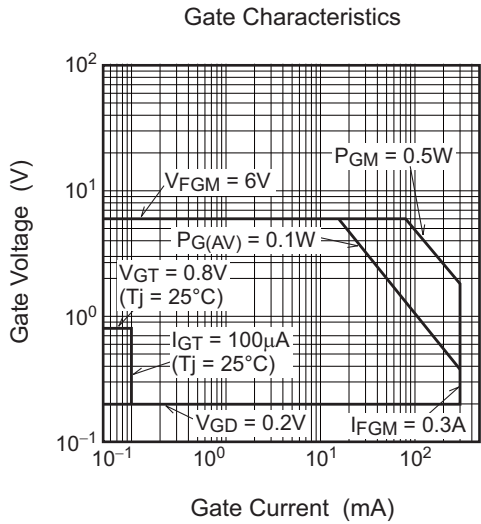
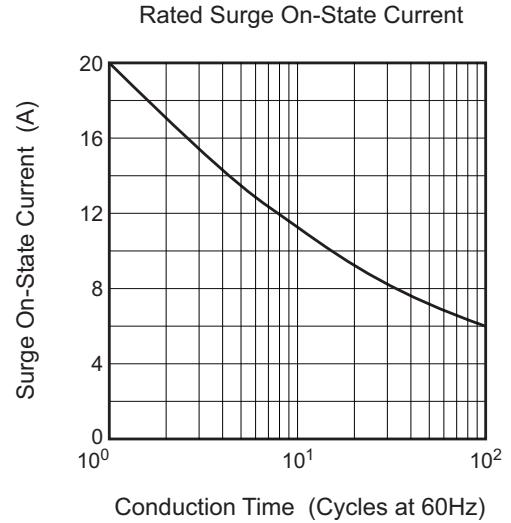
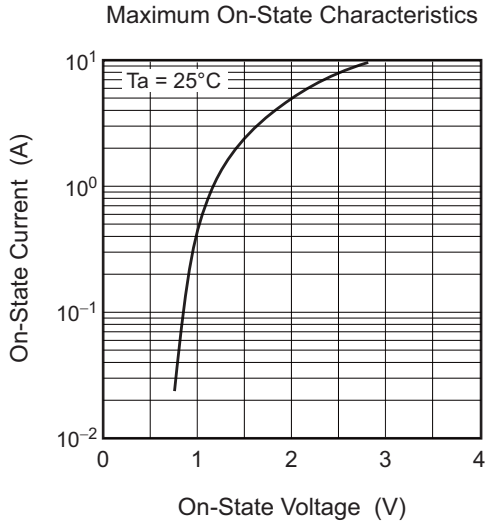
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak reverse current	I_{RRM}	—	—	0.1	mA	$T_j = 125^\circ\text{C}$, V_{RRM} applied
Repetitive peak off-state current	I_{DRM}	—	—	0.1	mA	$T_j = 125^\circ\text{C}$, V_{DRM} applied $R_{GK} = 1\text{ k}\Omega$
On-state voltage	V_{TM}	—	—	1.8	V	$T_j = 25^\circ\text{C}$, $I_{TM} = 4\text{ A}$ instantaneous value
Gate trigger voltage	V_{GT}	—	—	0.8	V	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $I_T = 0.1\text{ A}$ ^{Note3}
Gate non-trigger voltage	V_{GD}	0.2	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$ $R_{GK} = 1\text{ k}\Omega$
Gate trigger current	I_{GT}	1	—	100	μA	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $I_T = 0.1\text{ A}$ ^{Note3}
Holding current	I_H	—	—	3	mA	$T_j = 25^\circ\text{C}$, $V_D = 12\text{ V}$ $R_{GK} = 1\text{ k}\Omega$
Thermal resistance	$R_{th(j-c)}$	—	—	4.0	$^\circ\text{C/W}$	Junction to case ^{Note2}

Notes: 2. The measurement point for case temperature is at anode tab.

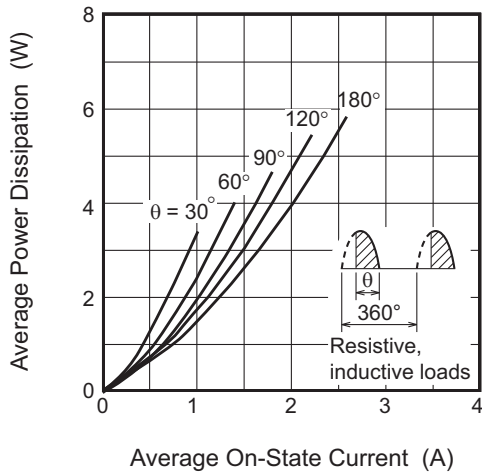
Notes: 3. I_{GT} , V_{GT} measurement circuit.



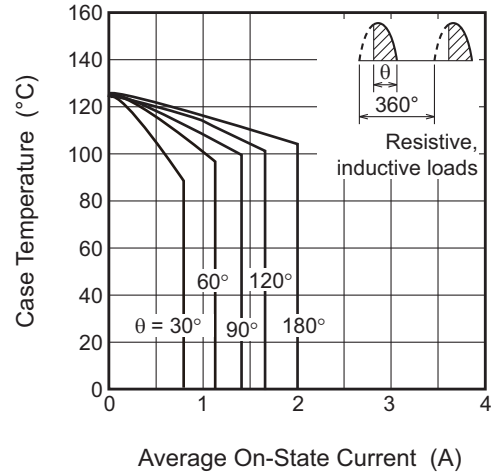
Performance Curves



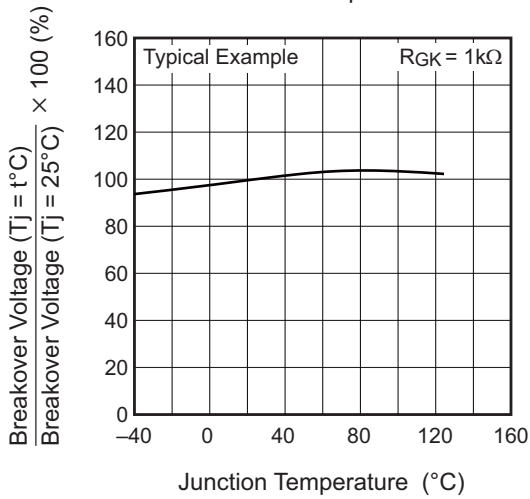
Maximum Average Power Dissipation (Single-Phase Half Wave)



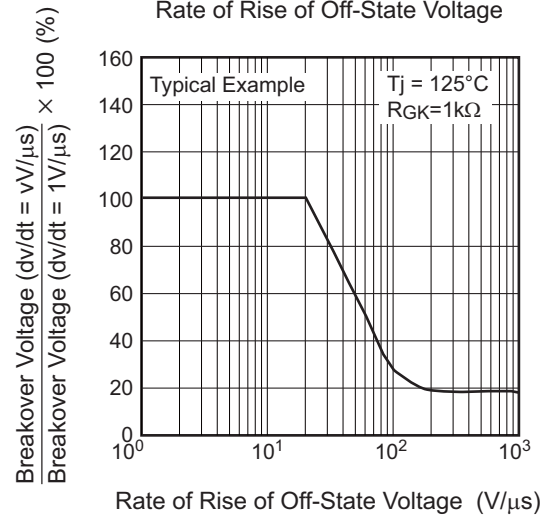
Allowable Case Temperature vs. Average On-State Current (Single-Phase Half Wave)



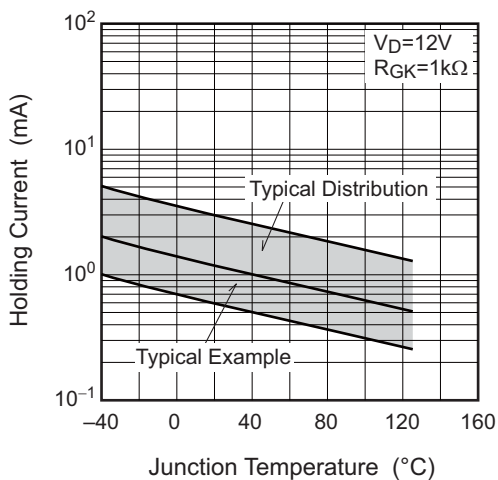
Breakover Voltage vs. Junction Temperature



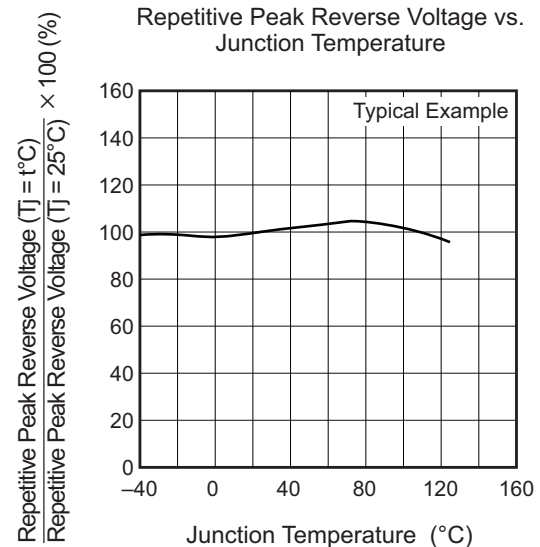
Breakover Voltage vs. Rate of Rise of Off-State Voltage

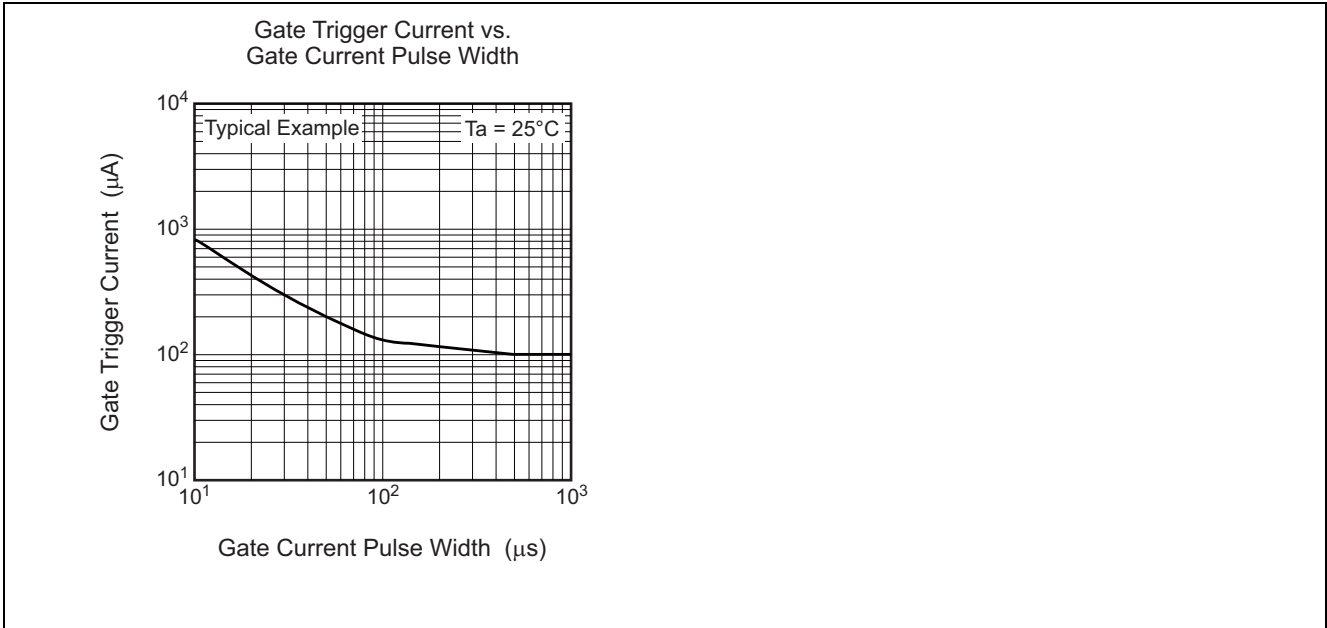


Holding Current vs. Junction Temperature

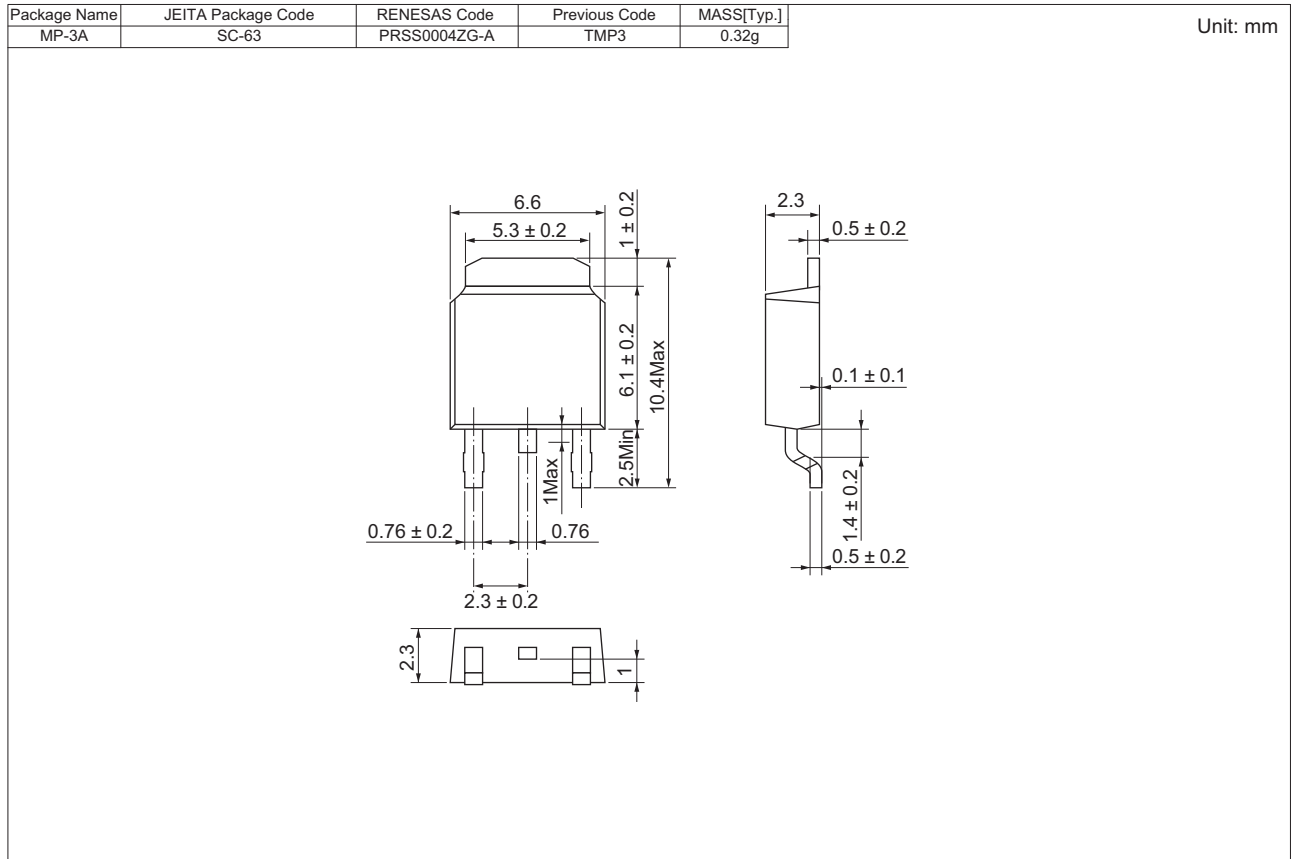


Repetitive Peak Reverse Voltage vs. Junction Temperature





Package dimensions



Ordering Information

Orderable Part Number	Packing	Quantity	Package	IGT
CR2AS-16A#B00	Tube	75 pcs.	MP-3A	1-100 μ A
CR2AS-16A-T13#B00	Embossed Tape	3000 pcs.	MP-3A	1-100 μ A
CR2AS-16A-T13#C01	Embossed Tape	3000 pcs.	MP-3A	20-50 μ A
CR2AS-16A-T13#C02	Embossed Tape	3000 pcs.	MP-3A	1-50 μ A
CR2AS-16A-T13#C03	Embossed Tape	3000 pcs.	MP-3A	20-100 μ A

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

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