

BCR8LM-12LA

600V - 8A - Triac

Medium Power Use

R07DS0683EJ0100

Rev.1.00

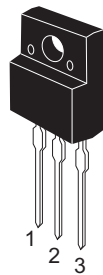
Feb 25, 2013

Features

- $I_{T(RMS)}$: 8 A
- V_{DRM} : 600 V
- I_{FGT} , I_{RGT} , $I_{RGT III}$: 10 mA
- V_{iso} : 1800V
- Insulated Type
- Planar Type
- UL Recognized : File No. E223904

Outline

RENESAS Package code: PRSS0003AF-A)
(Package name: TO-220FL)



1. T₁ Terminal
2. T₂ Terminal
3. Gate Terminal

Applications

Switching mode power supply, washing machine, motor control, heater control, and other general purpose AC power control applications

Maximum Ratings

Parameter	Symbol	Voltage class	
		12	Unit
Repetitive peak off-state voltage ^{Note1}	V_{DRM}	600	V
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	720	V

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	8	A	Commercial frequency, sine full wave 360°conduction, T _c = 82°C
Surge on-state current	I_{TSM}	80	A	60 Hz sine wave 1 full cycle, peak value, non-repetitive
I^2t for fusion	I^2t	26	A ² s	Value corresponding to 1 cycle of half wave 60 Hz, surge on-state current
Peak gate power dissipation	P_{GM}	5	W	
Average gate power dissipation	$P_{G(AV)}$	0.5	W	
Peak gate voltage	V_{GM}	10	V	
Peak gate current	I_{GM}	2	A	
Junction Temperature	T_j	-40 to +125	°C	
Storage temperature	T_{stg}	-40 to +125	°C	
Mass	—	1.5	g	Typical value
Isolation voltage ^{Note4}	V_{iso}	1800	V	T _a = 25°C, AC 1 minute, T1 • T2 • G terminal to case

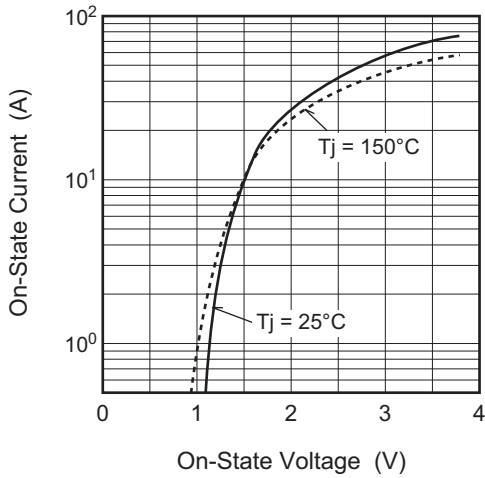
Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions	
Repetitive peak off-state current	I_{DRM}	—	—	2.0	mA	$T_j = 125^\circ\text{C}$, V_{DRM} applied	
On-state voltage	V_{TM}	—	—	1.6	V	$T_c = 25^\circ\text{C}$, $I_{TM} = 12\text{ A}$, instantaneous measurement	
Holding current	I_H	—	10	—	mA	$T_j = 25^\circ\text{C}$, $V_D = 12\text{ V}$, $R_{GT1} = \infty\ \Omega$	
Gate trigger voltage ^{Note2}	I	V_{FGT1}	—	—	1.5	V	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	V_{RGT1}	—	—	1.5	V	
	III	V_{RGTIII}	—	—	1.5	V	
Gate trigger current ^{Note2}	I	I_{FGT1}	—	—	10	mA	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$
	II	I_{RGT1}	—	—	10	mA	
	III	I_{RGTIII}	—	—	10	mA	
Gate non-trigger voltage	V_{GD}	0.2	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$	
Thermal resistance	$R_{th(j-c)}$	—	—	4.3	$^\circ\text{C/W}$	Junction to case ^{Note3}	

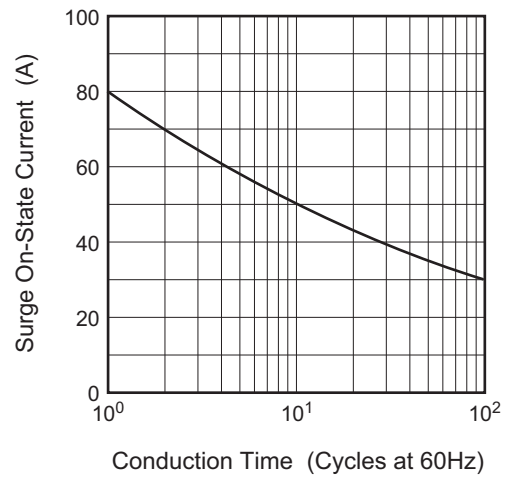
- Notes: 1. Gate open.
 2. Measurement using the gate trigger characteristics measurement circuit.
 3. The contact thermal resistance $R_{th(c-f)}$ in case of greasing is 0.5°C/W .
 4. Make sure that your finished product containing this device meets your safe isolation requirements. For safety, it is advisable that heatsink is electrically floating.

Performance Curves

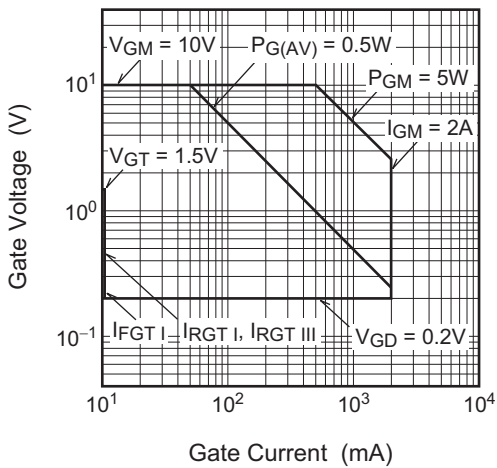
Maximum On-State Characteristics



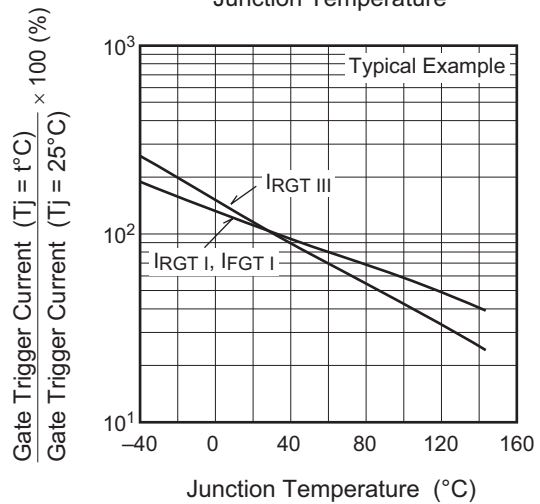
Rated Surge On-State Current



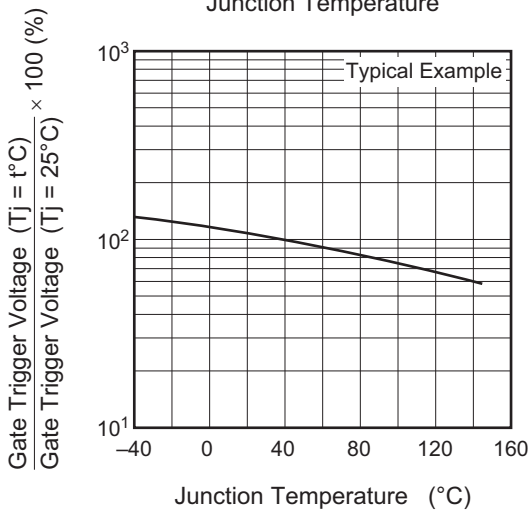
Gate Characteristics (I, II and III)



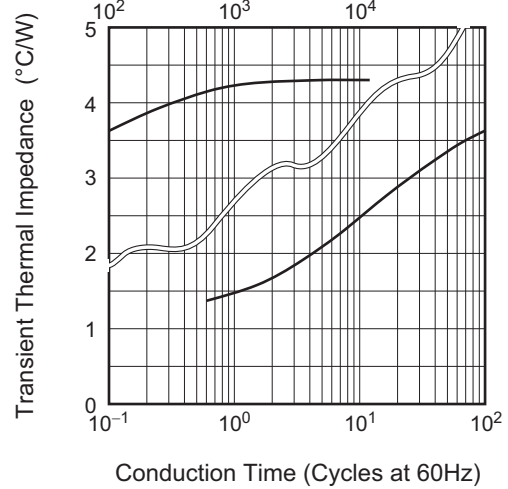
Gate Trigger Current vs. Junction Temperature

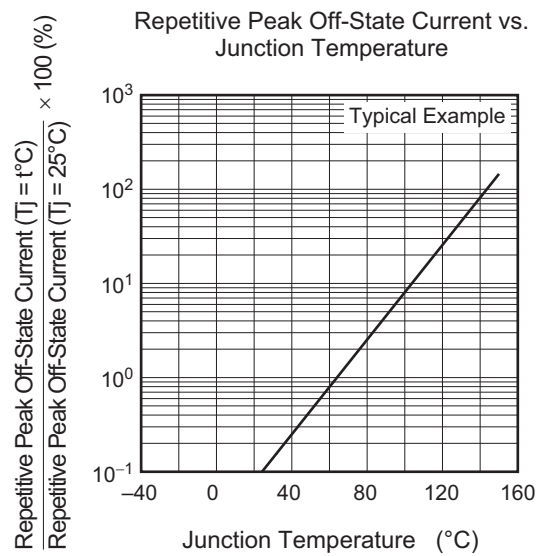
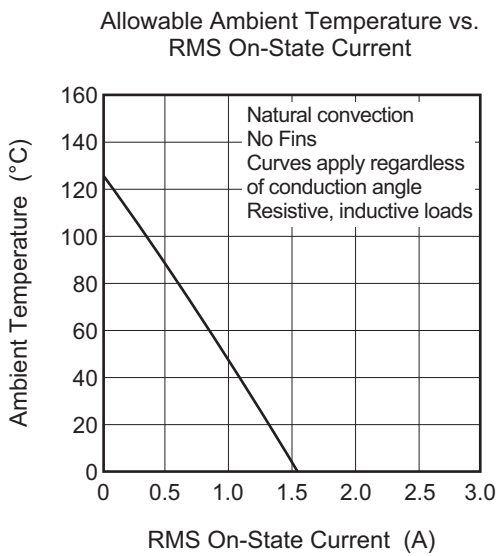
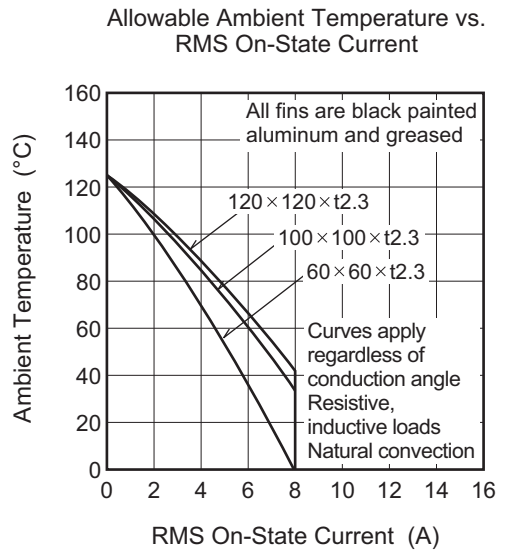
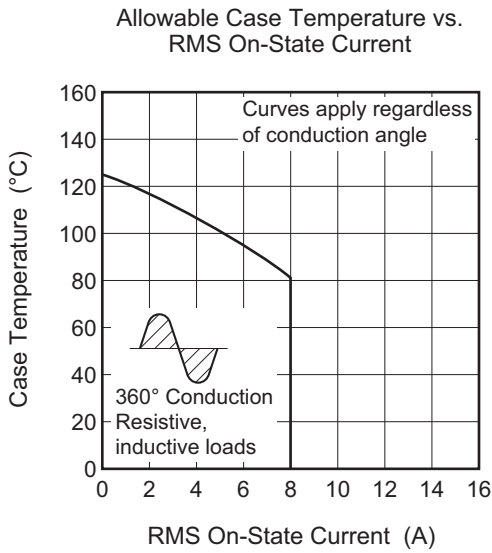
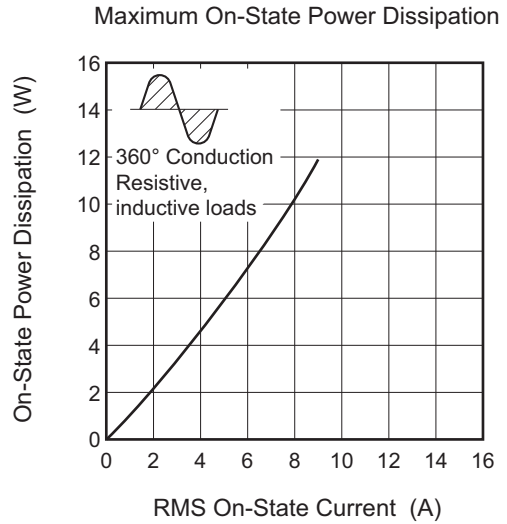
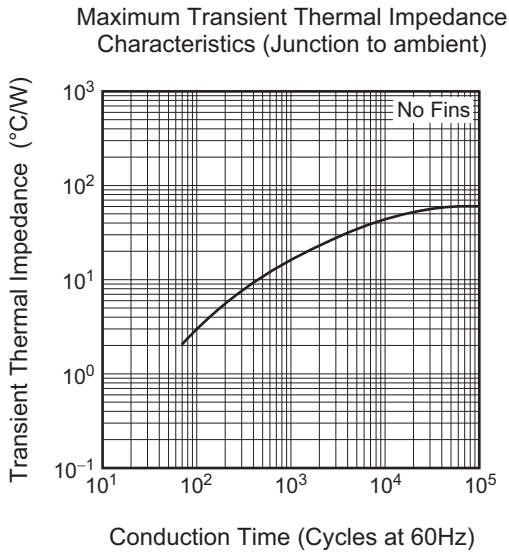


Gate Trigger Voltage vs. Junction Temperature

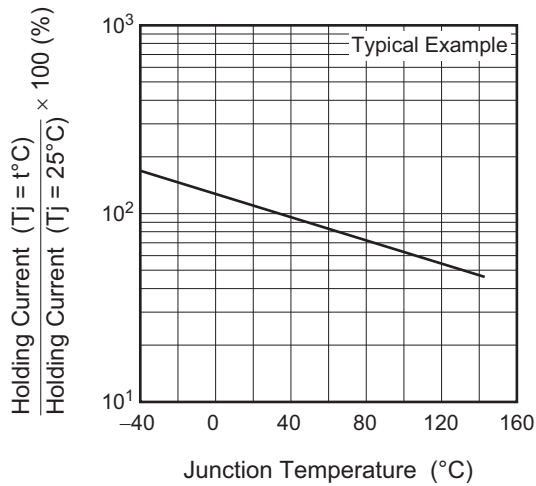


Maximum Transient Thermal Impedance Characteristics (Junction to case)

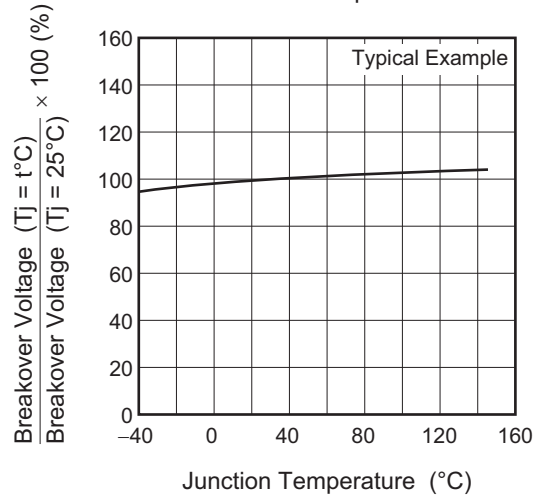




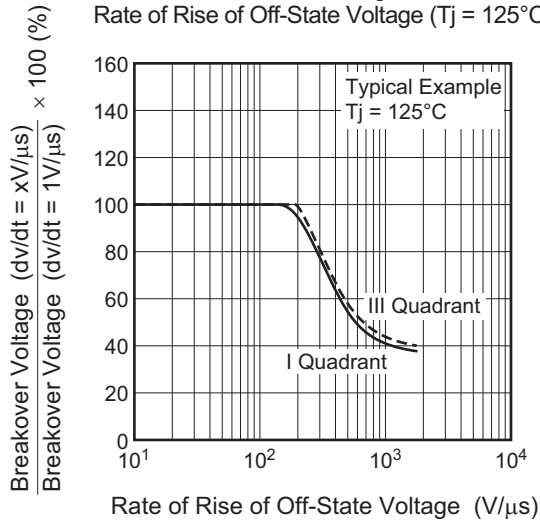
Holding Current vs. Junction Temperature



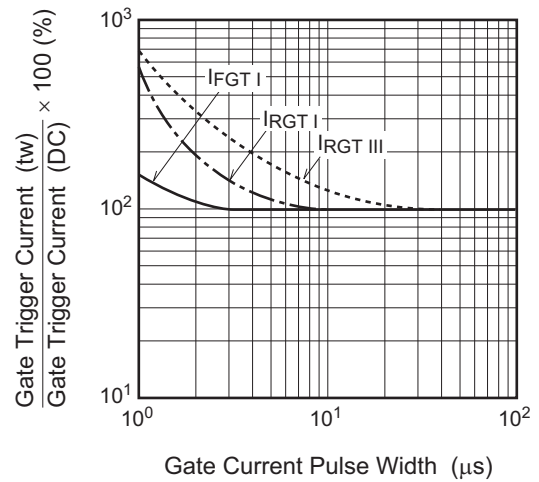
Breakover Voltage vs. Junction Temperature



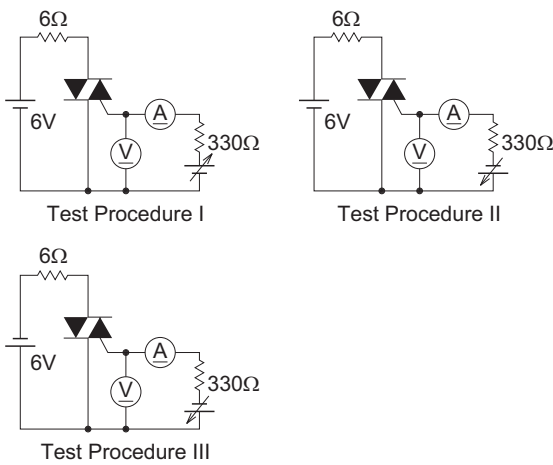
Breakover Voltage vs. Rate of Rise of Off-State Voltage (Tj = 125°C)



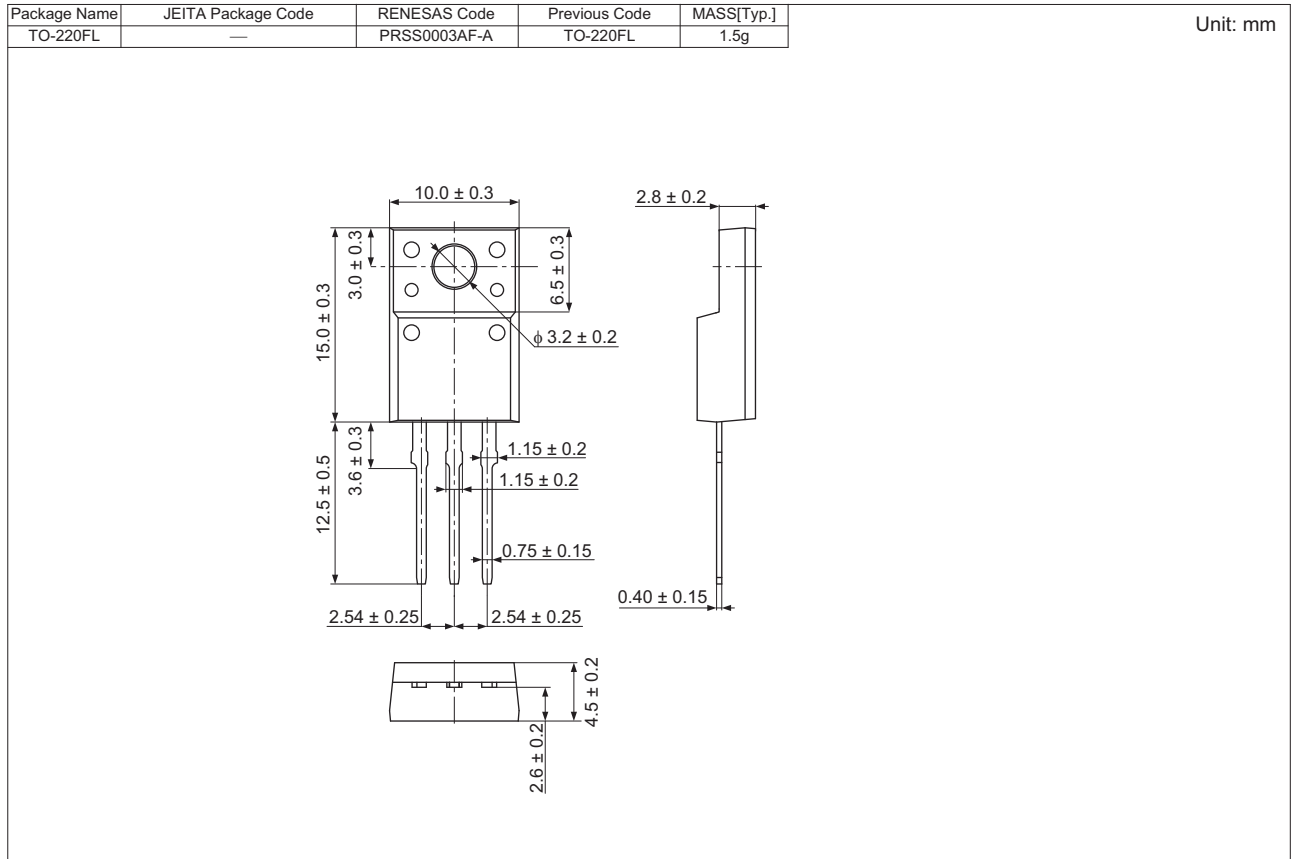
Gate Trigger Current vs. Gate Current Pulse Width



Gate Trigger Characteristics Test Circuits



Package Dimensions



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
BCR8LM-12LA#B00	Tube	50 pcs.	Straight type
BCR8LM-12LA-A8#B00	Tube	50 pcs.	A8 Lead form

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

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