

BCR8PM-16

MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

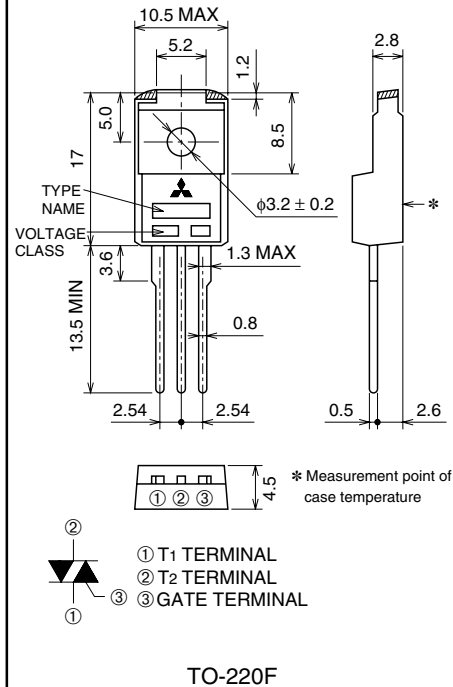
BCR8PM-16



- I_T (RMS) 8A
- V_{DRM} 800V
- IFGT I, IRGT I, IRGT III 30mA
- V_{iso} 2000V
- UL Recognized: Yellow Card No. E80276(N)
File No. E80271

OUTLINE DRAWING

Dimensions
in mm



APPLICATION

Washing machine, other general purpose control applications

MAXIMUM RATINGS

Symbol	Parameter	Voltage class	
		16	Unit
V_{DRM}	Repetitive peak off-state voltage *1	800	V
V_{DSM}	Non-repetitive peak off-state voltage *1	960	V

Symbol	Parameter	Conditions	Ratings	Unit
I_T (RMS)	RMS on-state current	Commercial frequency, sine full wave 360° conduction, $T_c=88^\circ\text{C}$	8	A
I_{TSM}	Surge on-state current	60Hz sinewave 1 full cycle, peak value, non-repetitive	80	A
I_t^2	I_t^2 for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	26	A^2s
P_{GM}	Peak gate power dissipation		5	W
$P_{G(AV)}$	Average gate power dissipation		0.5	W
V_{GM}	Peak gate voltage		10	V
I_{GM}	Peak gate current		2	A
T_j	Junction temperature		-40 ~ +125	$^\circ\text{C}$
T_{stg}	Storage temperature		-40 ~ +125	$^\circ\text{C}$
—	Weight	Typical value	2.0	g
V_{iso}	Isolation voltage	$T_a=25^\circ\text{C}$, AC 1 minute, T1 · T2 · G terminal to case	2000	V

*1. Gate open.

BCR8PM-16

MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive peak off-state current	$T_j=125^\circ\text{C}$, V_{DRM} applied	—	—	2.0	mA	
V_{TM}	On-state voltage	$T_c=25^\circ\text{C}$, $I_{\text{TM}}=12\text{A}$, Instantaneous measurement	—	—	1.6	V	
$V_{\text{FGT I}}$	Gate trigger voltage *2	$T_j=25^\circ\text{C}$, $V_{\text{D}}=6\text{V}$, $R_{\text{L}}=6\Omega$, $R_{\text{G}}=330\Omega$	I	—	—	1.5	V
$V_{\text{RGT I}}$			II	—	—	1.5	V
$V_{\text{RGT III}}$			III	—	—	1.5	V
$I_{\text{FGT I}}$	Gate trigger current *2	$T_j=25^\circ\text{C}$, $V_{\text{D}}=6\text{V}$, $R_{\text{L}}=6\Omega$, $R_{\text{G}}=330\Omega$	I	—	—	30	mA
$I_{\text{RGT I}}$			II	—	—	30	mA
$I_{\text{RGT III}}$			III	—	—	30	mA
V_{GD}	Gate non-trigger voltage	$T_j=125^\circ\text{C}$, $V_{\text{D}}=1/2V_{\text{DRM}}$	0.2	—	—	V	
$R_{\text{th (j-c)}}$	Thermal resistance	Junction to case *3	—	—	3.7	$^\circ\text{C}/\text{W}$	
$(dv/dt)_c$	Critical-rate of rise of off-state commutating voltage *4	$T_j=125^\circ\text{C}$	10	—	—	$\text{V}/\mu\text{s}$	

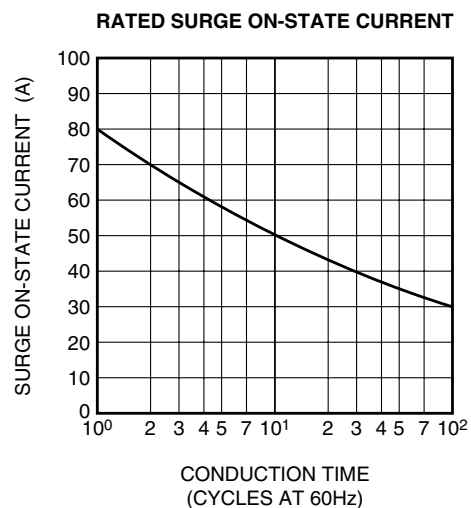
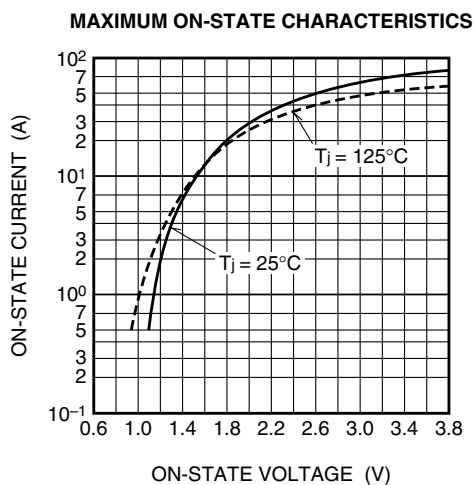
*2. Measurement using the gate trigger characteristics measurement circuit.

*3. The contact thermal resistance $R_{\text{th (c-f)}}$ in case of greasing is $0.5^\circ\text{C}/\text{W}$.

*4. Test conditions of the critical-rate of rise of off-state commutating voltage is shown in the table below.

Test conditions	Commutating voltage and current waveforms (inductive load)
1. Junction temperature $T_j=125^\circ\text{C}$ 2. Rate of decay of on-state commutating current $(di/dt)_c=-4.0\text{A}/\text{ms}$ 3. Peak off-state voltage $V_{\text{D}}=400\text{V}$	

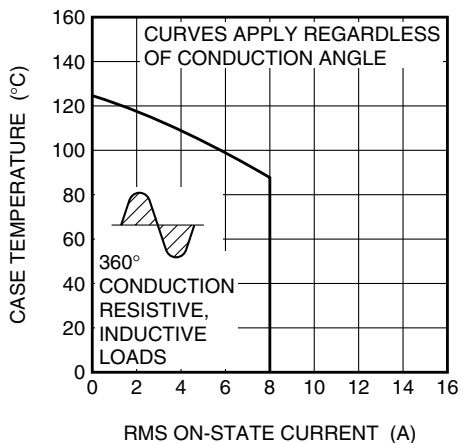
PERFORMANCE CURVES



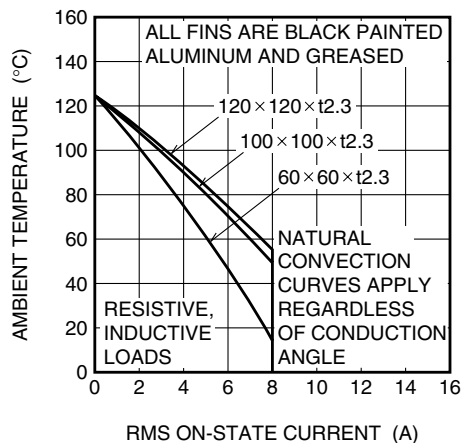
BCR8PM-16

MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

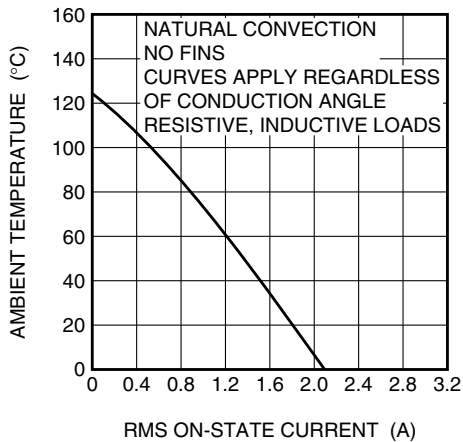
ALLOWABLE CASE TEMPERATURE VS. RMS ON-STATE CURRENT



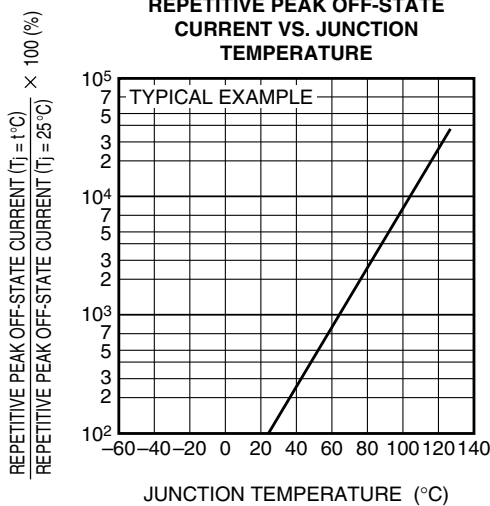
ALLOWABLE AMBIENT TEMPERATURE VS. RMS ON-STATE CURRENT



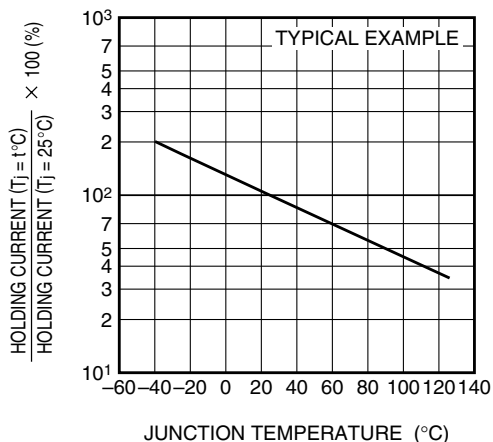
ALLOWABLE AMBIENT TEMPERATURE VS. RMS ON-STATE CURRENT



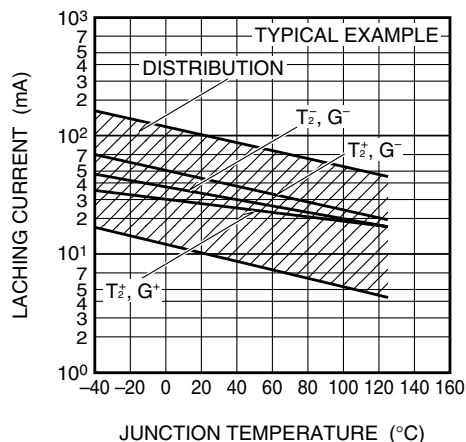
REPETITIVE PEAK OFF-STATE CURRENT VS. JUNCTION TEMPERATURE



HOLDING CURRENT VS. JUNCTION TEMPERATURE



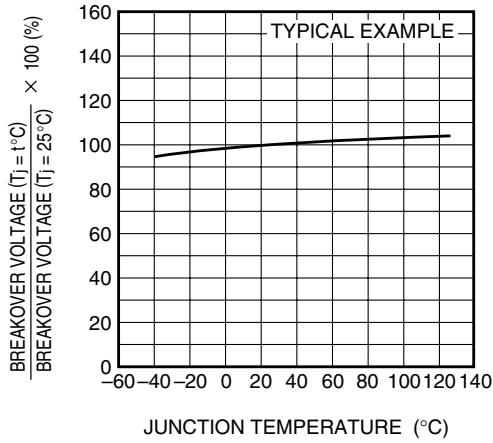
LACHING CURRENT VS. JUNCTION TEMPERATURE



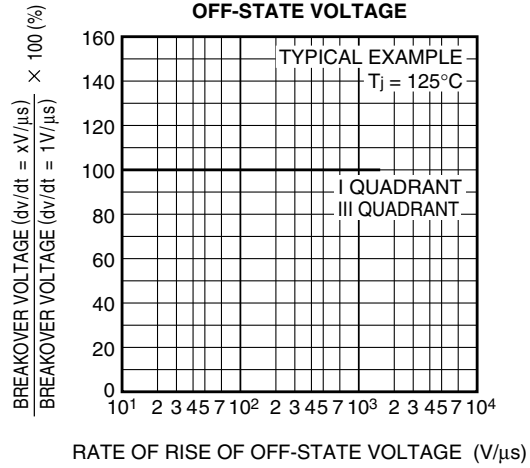
BCR8PM-16

MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

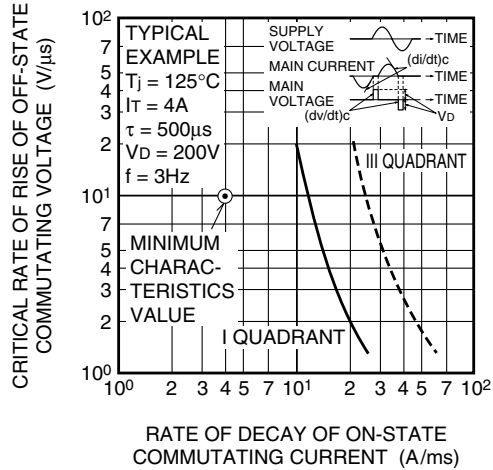
BREAKEOVER VOLTAGE VS. JUNCTION TEMPERATURE



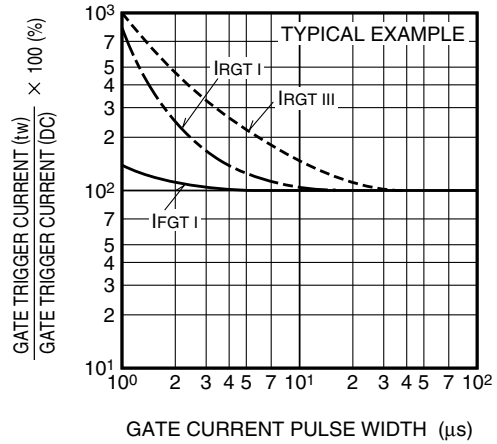
BREAKEOVER VOLTAGE VS. RATE OF RISE OF OFF-STATE VOLTAGE



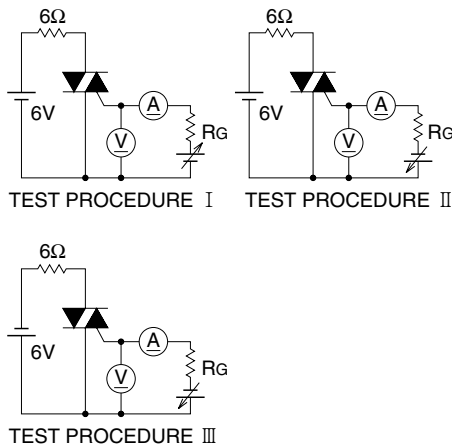
COMMUTATION CHARACTERISTICS



GATE TRIGGER CURRENT VS. GATE CURRENT PULSE WIDTH



GATE TRIGGER CHARACTERISTICS TEST CIRCUITS





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.