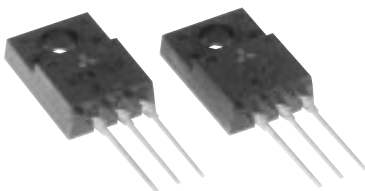


# BCR3KM-14

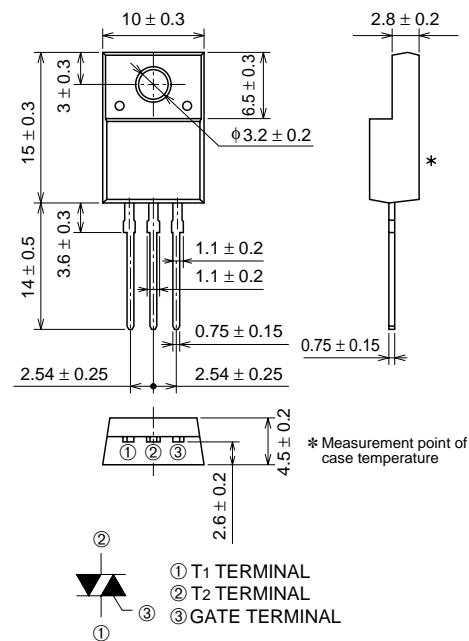
LOW POWER USE  
INSULATED TYPE, PLANAR PASSIVATION TYPE

**BCR3KM-14**



- $I_T$  (RMS) ..... 3A
- $V_{DRM}$  ..... 700V
- IFGT I , IRGT I , IRGT III ..... 30mA
- $V_{iso}$  ..... 2000V

**OUTLINE DRAWING** Dimensions in mm



\* Measurement point of case temperature

① T1 TERMINAL  
② T2 TERMINAL  
③ GATE TERMINAL

**TO-220FN**

## APPLICATION

Contactless AC switches, light dimmer, electric blankets, control of household equipment such as electric fan, solenoid drivers, small motor control, other general purpose control applications

## MAXIMUM RATINGS

Symbol	Parameter	Voltage class	
		14	Unit
$V_{DRM}$	Repetitive peak off-state voltage*1	700	V
$V_{DSM}$	Non-repetitive peak off-state voltage*1	840	V

Symbol	Parameter	Conditions	Ratings	Unit
$I_T$ (RMS)	RMS on-state current	Commercial frequency, sine full wave 360° conduction, $T_c=108^\circ\text{C}$	3	A
$I_{TSM}$	Surge on-state current	60Hz sinewave 1 full cycle, peak value, non-repetitive	30	A
$I_t^2$	$I_t^2$ for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	3.7	A <sup>2</sup> s
$P_{GM}$	Peak gate power dissipation		3	W
$P_{G(AV)}$	Average gate power dissipation		0.3	W
$V_{GM}$	Peak gate voltage		6	V
$I_{GM}$	Peak gate current		0.5	A
$T_j$	Junction temperature		-40 ~ +125	°C
$T_{stg}$	Storage temperature		-40 ~ +125	°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.

# BCR3KM-14

LOW POWER USE  
INSULATED TYPE, PLANAR PASSIVATION TYPE

## ELECTRICAL CHARACTERISTICS

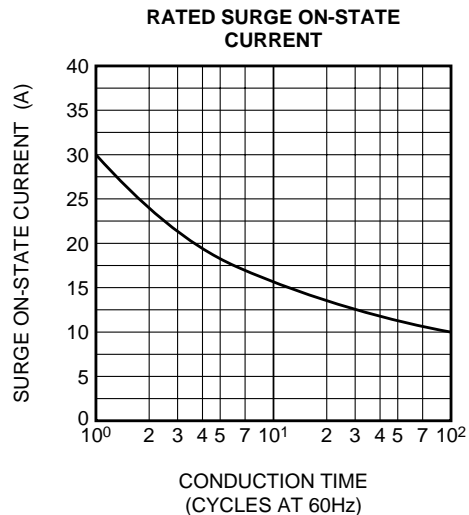
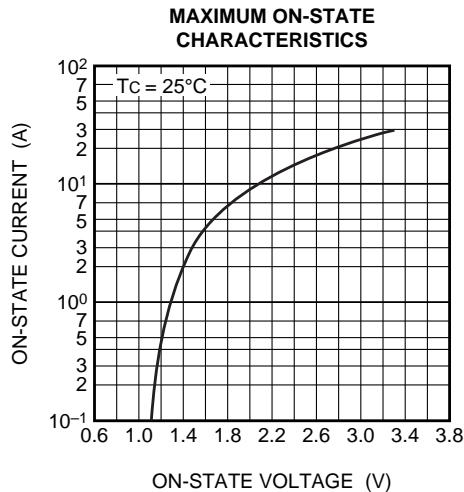
Symbol	Parameter	Test conditions	Limits			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive peak off-state current	T <sub>j</sub> =125°C, V <sub>DRM</sub> applied	—	—	2.0	mA	
VTM	On-state voltage	T <sub>c</sub> =25°C, I <sub>TM</sub> =4.5A, Instantaneous measurement	—	—	1.6	V	
VFGT I	Gate trigger voltage	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, R <sub>L</sub> =6Ω, R <sub>G</sub> =330Ω	I	—	—	1.5	V
VRGT I			II	—	—	1.5	V
VRGT III			III	—	—	1.5	V
IFGT I	Gate trigger current	T <sub>j</sub> =25°C, V <sub>D</sub> =6V, R <sub>L</sub> =6Ω, R <sub>G</sub> =330Ω	I	—	—	30	mA
IRGT I			II	—	—	30	mA
IRGT III			III	—	—	30	mA
VGD	Gate non-trigger voltage	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub>	0.2	—	—	V	
R <sub>th(j-c)</sub>	Thermal resistance	Junction to case *3	—	—	4.0	°C/W	
(dv/dt) <sub>c</sub>	Critical-rate of rise of off-state commutating voltage		*2	—	—	V/μs	

\*2. The critical-rate of rise of the off-state commutating voltage is shown in the table below.

\*3. The contact thermal resistance R<sub>th(c-f)</sub> in case of greasing is 0.5°C/W.

Voltage class	V <sub>DRM</sub> (V)	(dv/dt) <sub>c</sub>			Test conditions	Commutating voltage and current waveforms (inductive load)
		Symbol	Min.	Unit		
14	700	R	—	V/μs	1. Junction temperature T <sub>j</sub> =125°C 2. Rate of decay of on-state commutating current (di/dt) <sub>c</sub> =-1.5A/ms 3. Peak off-state voltage V <sub>D</sub> =400V	
		L	5			

## PERFORMANCE CURVES



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