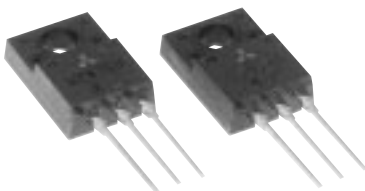


BCR3KM-14

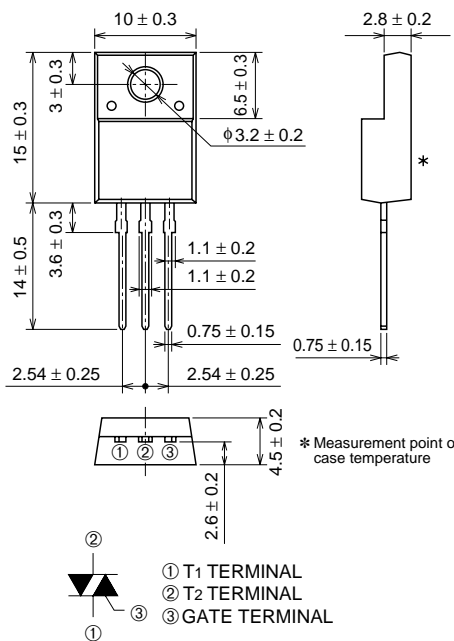
LOW POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

BCR3KM-14



- IT (RMS) 3A
- VDRM 700V
- IFGT I , IRGT I , IRGT III 30mA
- V_{iso} 2000V

OUTLINE DRAWING Dimensions in mm



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°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 ² 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°C, AC 1 minute, T ₁ · T ₂ · G terminal to case	2000	V

*1. Gate open.

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive peak off-state current	T _j =125°C, V _{DRM} applied	—	—	2.0	mA	
VTM	On-state voltage	T _c =25°C, I _{TM} =4.5A, Instantaneous measurement	—	—	1.6	V	
VFGT I	Gate trigger voltage	T _j =25°C, V _D =6V, R _L =6Ω, R _G =330Ω	I	—	—	1.5	V
VRGT I			II	—	—	1.5	V
VRGT III			III	—	—	1.5	V
IFGT I	Gate trigger current	T _j =25°C, V _D =6V, R _L =6Ω, R _G =330Ω	I	—	—	30	mA
IRGT I			II	—	—	30	mA
IRGT III			III	—	—	30	mA
VGD	Gate non-trigger voltage	T _j =125°C, V _D =1/2V _{DRM}	0.2	—	—	V	
R _{th(j-c)}	Thermal resistance	Junction to case *3	—	—	4.0	°C/W	
(dv/dt) _c	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_{th(c-f)} in case of greasing is 0.5°C/W.

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

PERFORMANCE CURVES

