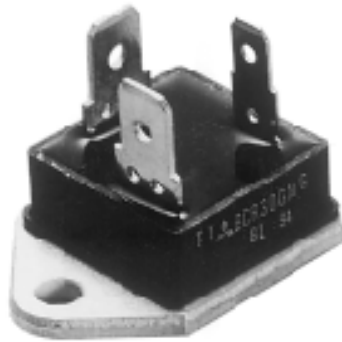


BCR30GM

BCR30GM



- ## OUTLINE DRAWING

②

39.2 MAX

20.2 MAX

2-φ4.2

5.0 MIN.

23.0 MAX

③

②

①

③

①

②

③

7.0

7.0

8.25

6.35

φ2.0(T1, T2)

T1 TERMINAL INDICATION

7.95

1.5

9.75

6.35

φ1.55(G)

GATE TERMINAL INDICATION

TRADEMARK

3-φ1.3

TYPE NAME

LOT No.

VOLTAGE CLASS

Tb TEST POINT

2.6

11 MAX

22.5 MAX

BCR30GM (C TYPE)

Symbol	Parameter	Voltage class		Unit
		8	12	
V _{DRM}	Repetitive peak off-state voltage *1	400	600	V
V _{DSM}	Non-repetitive peak off-state voltage *1	500	720	V

Feb. 1999

BCR30GM

MEDIUM POWER USE
INSULATED TYPE, GLASS PASSIVATION TYPE

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDRM	Repetitive peak off-state current	T _J =125°C, V _{DRM} applied	—	—	3.0	mA
VTM	On-state voltage	T _b =25°C, I _{TM} =45A, Instantaneous measurement	—	—	1.6	V
VFGT I	Gate trigger voltage *2	T _J =25°C, V _D =6V, R _L =6Ω, R _G =330Ω	—	—	2.5	V
VRGT I			—	—	2.5	V
VRGT III			—	—	2.5	V
IFGT I	Gate trigger current *2	T _J =25°C, V _D =6V, R _L =6Ω, R _G =330Ω	—	—	50	mA
IRGT I			—	—	50	mA
IRGT III			—	—	50	mA
VGD	Gate non-trigger voltage	T _J =125°C, V _D =1/2V _{DRM}	0.2	—	—	V
R _{th} (j-b)	Thermal resistance	Junction to base *4	—	—	1.6	°C/W
(dv/dt) _c	Critical-rate of rise of off-state commutating voltage		*3	—	—	V/μs

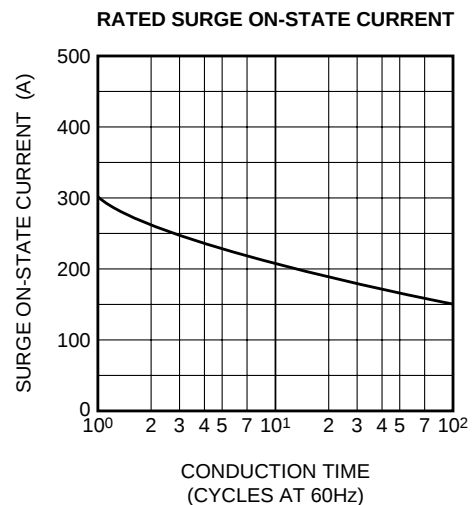
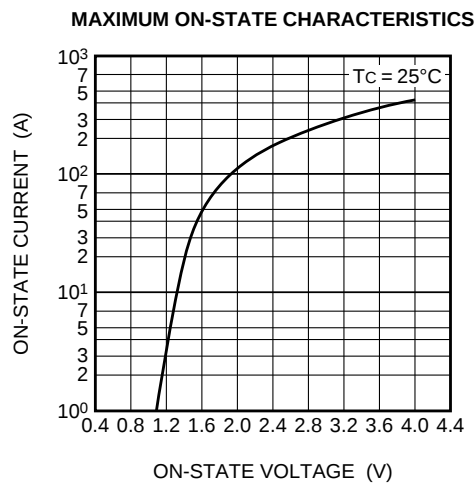
*2. Measurement using the gate trigger characteristics measurement circuit.

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

*4. The contact thermal resistance R_{th} (b-f) in case of greasing is 0.5°C/W.

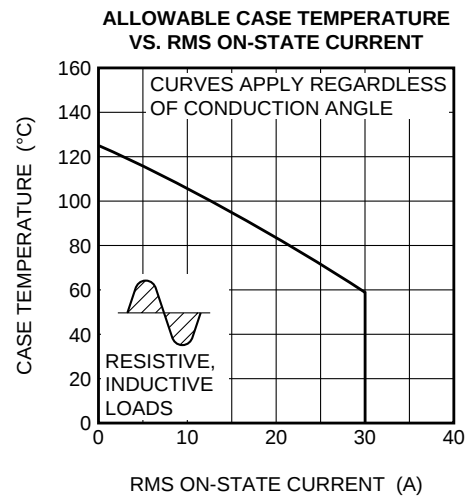
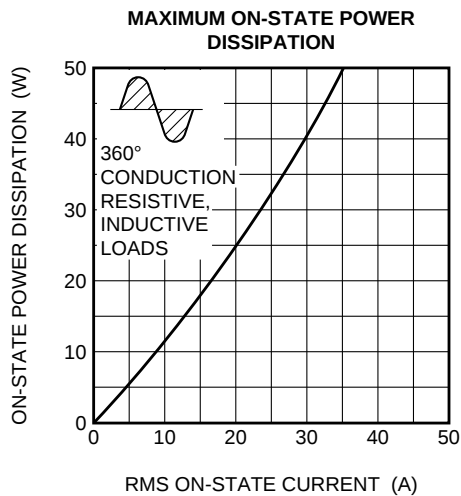
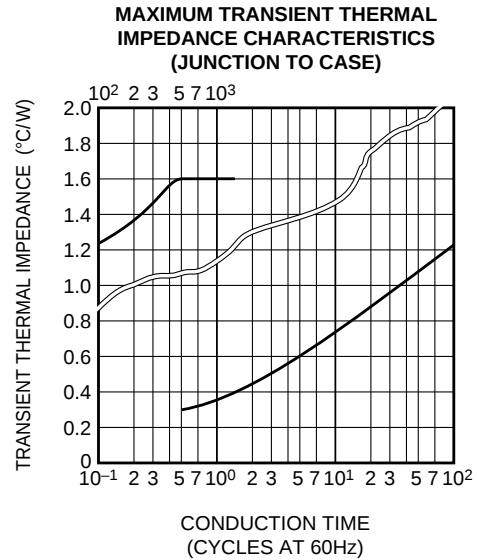
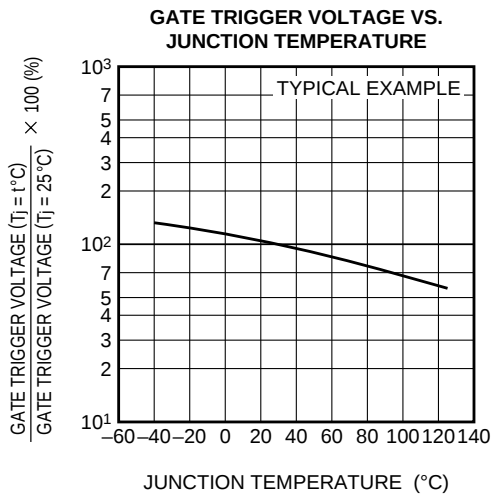
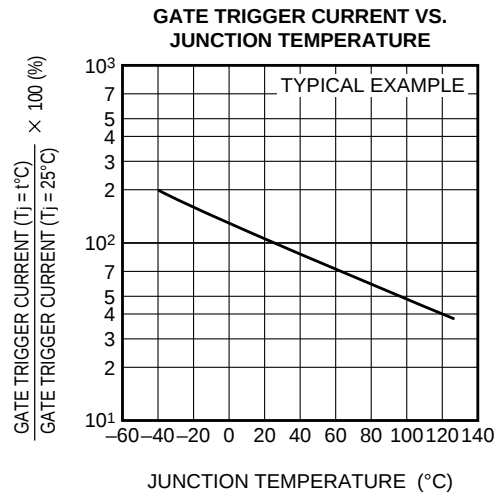
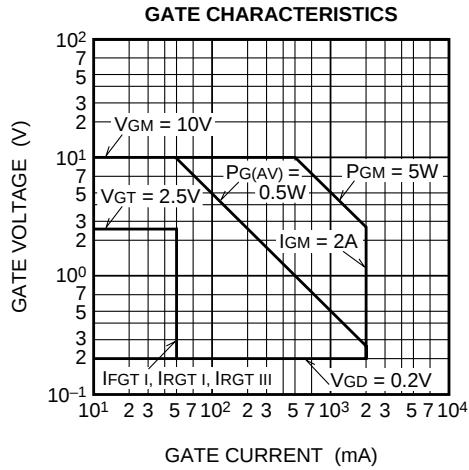
Voltage class	V _{DRM} (V)	(dv/dt) _c			Test conditions	Commutating voltage and current waveforms (inductive load)
		Symbol	Min.	Unit		
8	400	R	—	V/μs	1. Junction temperature T _J =125°C 2. Rate of decay of on-state commutating current (di/dt) _c =-16A/ms 3. Peak off-state voltage V _D =400V	
		L	20			
12	600	R	—			
		L	20			

PERFORMANCE CURVES



BCR30GM

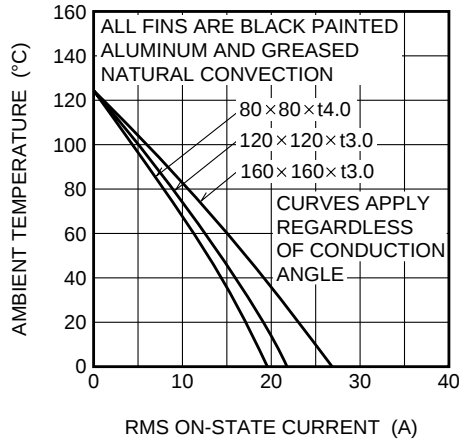
MEDIUM POWER USE
INSULATED TYPE, GLASS PASSIVATION TYPE



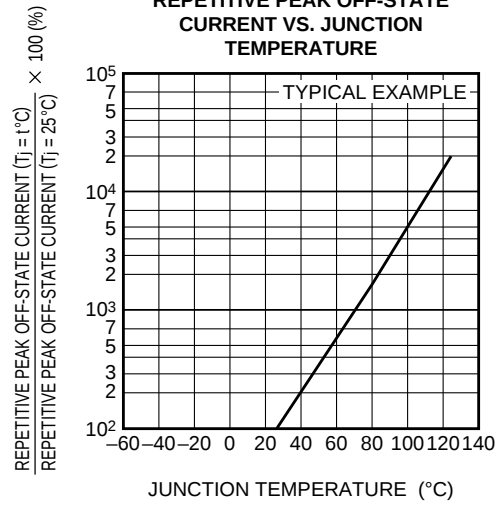
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MEDIUM POWER USE
INSULATED TYPE, GLASS PASSIVATION TYPE

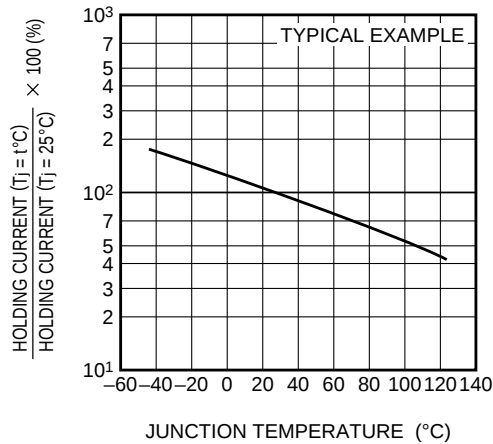
ALLOWABLE AMBIENT TEMPERATURE
VS. RMS ON-STATE CURRENT



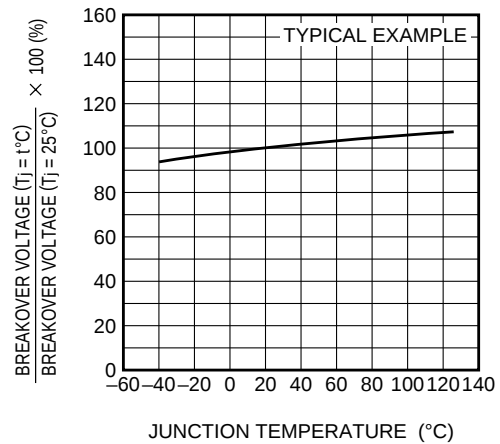
REPETITIVE PEAK OFF-STATE
CURRENT VS. JUNCTION
TEMPERATURE



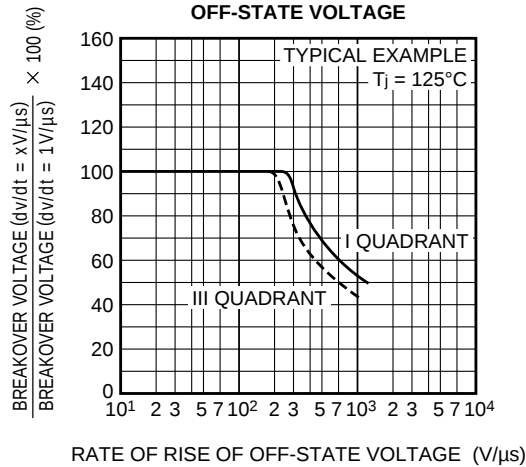
HOLDING CURRENT VS.
JUNCTION TEMPERATURE



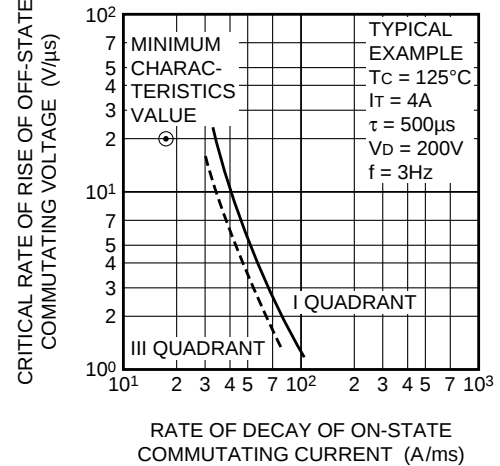
BREAKOVER VOLTAGE VS.
JUNCTION TEMPERATURE



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

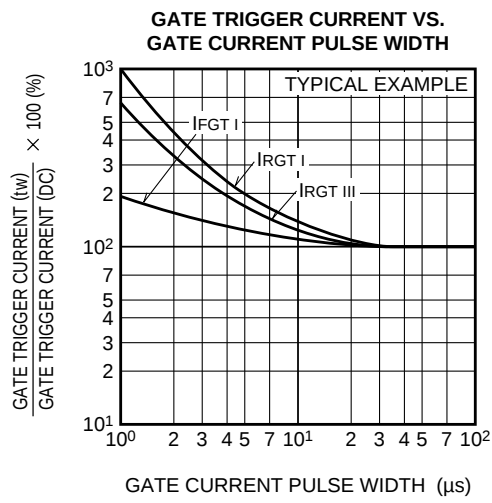


COMMUTATION CHARACTERISTICS



BCR30GM

MEDIUM POWER USE
INSULATED TYPE, GLASS PASSIVATION TYPE



GATE TRIGGER CHARACTERISTICS TEST CIRCUITS

