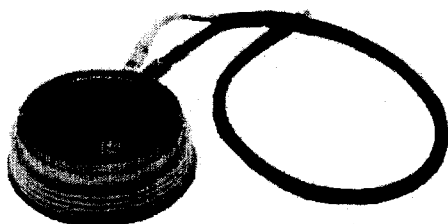


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HIGH POWER INVERTER USE
PRESS PACK TYPE

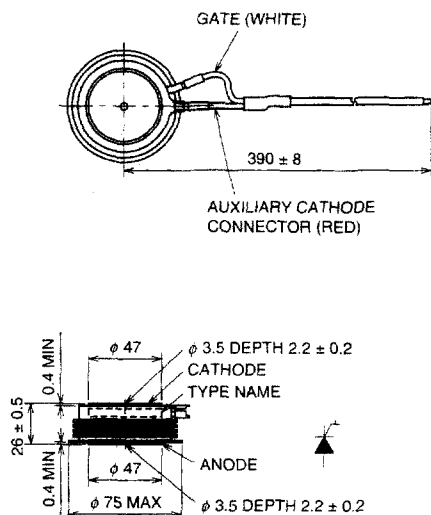
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- $I_{T(RM)}$ Repetitive controllable on-state current 1000A
- $I_{T(AV)}$ Average on-state current 400A
- V_{DRM} Repetitive peak off state voltage 4500V
- Anode short type

OUTLINE DRAWING

Dimensions in mm



APPLICATION

Inverters, D.C. choppers, Induction heaters, D.C. to D.C. converters.

MAXIMUM RATINGS

Symbol	Parameter	Voltage class	Unit
		90D	
V_{RRM}	Repetitive peak reverse voltage	17	V
V_{RSM}	Non-repetitive peak reverse voltage	17	V
$V_{R(DC)}$	DC reverse voltage	17	V
V_{DRM}	Repetitive peak off-state voltage*	4500	V
V_{DSM}	Non-repetitive peak off-state voltage*	4500	V
$V_{D(DC)}$	DC off-state voltage*	3600	V

* : $V_{GK} = -2V$

Symbol	Parameter	Conditions	Ratings	Unit
$I_{T(RM)}$	Repetitive controllable on-state current	$V_{DM} = 3375V$, $T_j = 125^\circ C$, $C_s = 0.7\mu F$, $L_s = 0.3\mu H$	1000	A
$I_{T(RMS)}$	RMS on-state current		630	A
$I_{T(AV)}$	Average on-state current	$f = 60Hz$, sine wave $\theta = 180^\circ$, $T_f = 70^\circ C$	400	A
I_{TSM}	Surge (non-repetitive) on-state current	One half cycle at 60Hz	8.4	kA
I^2t	Current-squared, time integration	One cycle at 60Hz	2.5×10^4	A ² s
di/dt	Critical rate of rise of on-state current	$V_D = 2250V$, $I_{GM} = 20A$, $T_j = 125^\circ C$	1000	A/ μs
V_{FGM}	Peak forward gate voltage		10	V
V_{RGM}	Peak reverse gate voltage		17	V
I_{FGM}	Peak forward gate current		60	A
I_{RGM}	Peak gate reverse current		500	A
P_{FGM}	Peak forward gate power dissipation		240	W
P_{RGM}	Peak reverse gate power dissipation		15	kW
$P_{FG(AV)}$	Average forward gate power dissipation		45	W
$P_{RG(AV)}$	Average reverse gate power dissipation		100	W
T_j	Junction temperature		-40 ~ +125	$^\circ C$
T_{stg}	Storage temperature		-40 ~ +150	$^\circ C$
—	Mounting force required	Recommended value 13	12 ~ 15	kN
—	Weight	Standard value	530	g

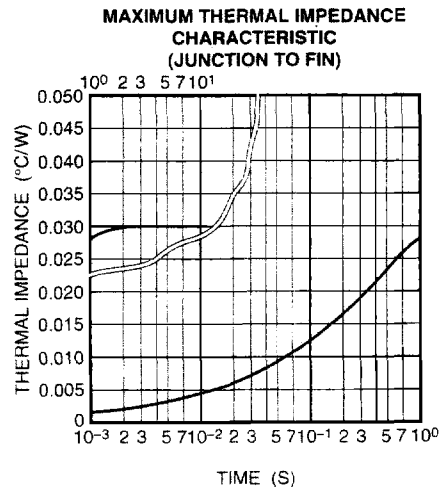
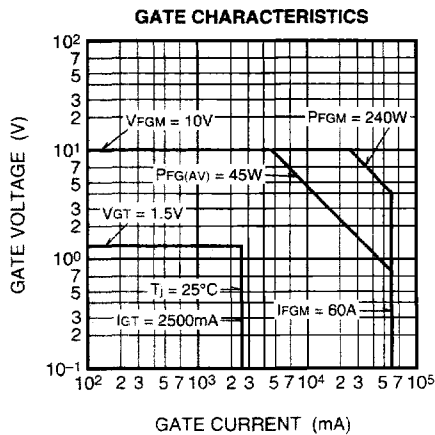
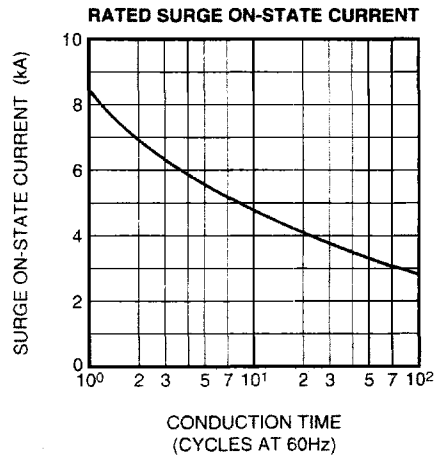
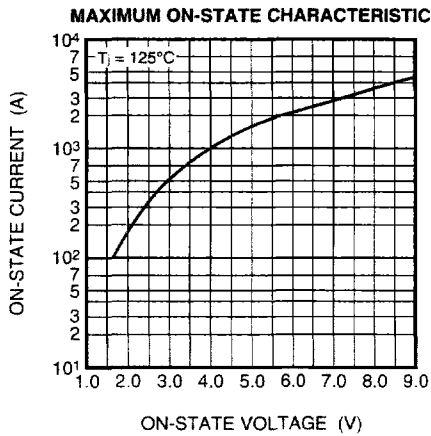
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HIGH POWER INVERTER USE
PRESS PACK TYPE

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V _{TM}	On-state voltage	T _j = 125°C, I _{TM} = 1000A, Instantaneous measurment	—	—	4.0	V
I _{RRM}	Repetitive peak reverse current	T _j = 125°C, V _{RRM} Applied	—	—	100	mA
I _{DRM}	Repetitive peak off-state current	T _j = 125°C, V _{DRM} Applied, V _{GK} = -2V	—	—	100	mA
I _{RG}	Reverse gate current	T _j = 125°C, V _{RG} = 17V	—	—	100	mA
dv/dt	Critical rate of rise of off-state voltage	T _j = 125°C, V _D = 2250V, V _{GK} = -2V	1000	—	—	V/μs
t _{gt}	Turn-on time	T _j = 125°C, I _{TM} = 1000A, I _{GM} = 20A, V _D = 2250V	—	—	10	μs
t _{gq}	Turn-off time	T _j = 125°C, I _{TM} = 1000A, V _{DM} = 3375V, diGQ/dt = -30A/μs V _{RG} = 17V, C _s = 0.7μF, L _s = 0.3μH	—	—	20	μs
I _{GQM}	Peak gate turn-off current		—	330	—	A
V _{GT}	Gate trigger voltage	T _j = 25°C, V _D = 5 - 20V, I _T = 25 - 200A, sine wave half cycle	—	—	1.5	V
I _{GT}	Gate trigger current		—	—	2500	mA
R _{th(j-f)}	Thermal resistance	Junction to fin	—	—	0.03	°C/W

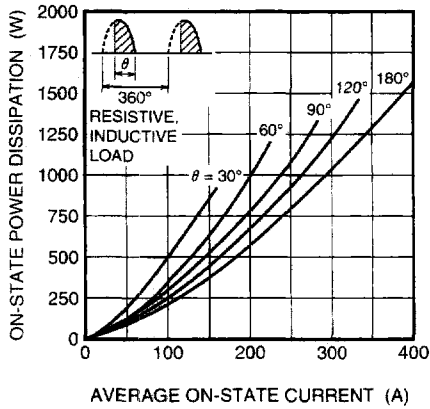
PERFORMANCE CURVES



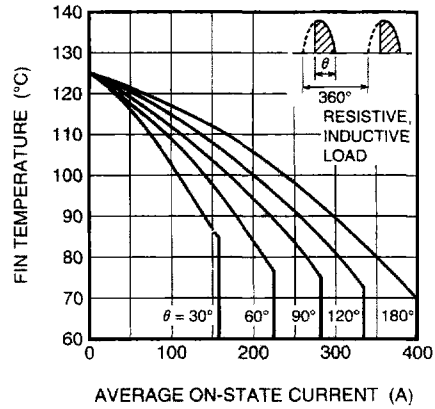
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HIGH POWER INVERTER USE
PRESS PACK TYPE

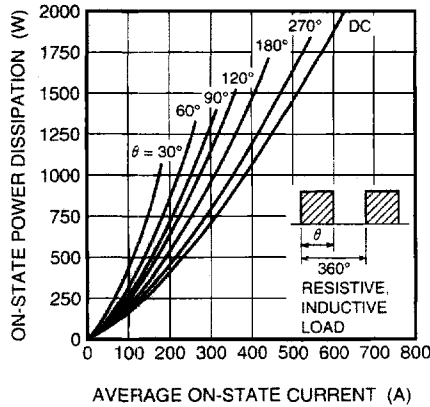
**MAXIMUM ON-STATE POWER DISSIPATION
CHARACTERISTICS
(SINGLE-PHASE HALF WAVE)**



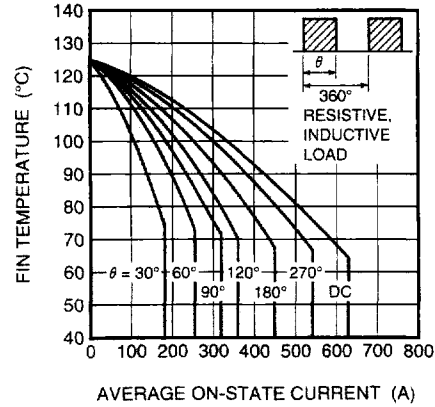
**ALLOWABLE FIN TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
(SINGLE-PHASE HALF WAVE)**



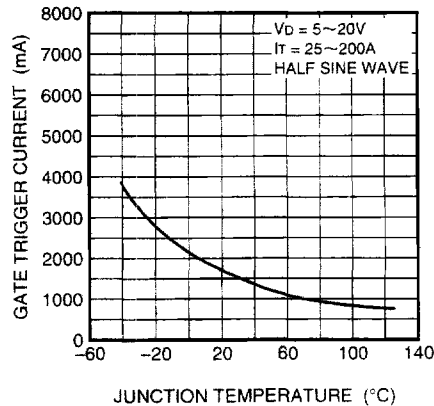
**MAXIMUM ON-STATE POWER DISSIPATION
CHARACTERISTICS
(RECTANGULAR WAVE)**



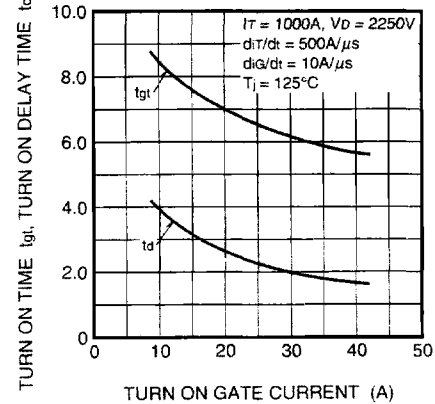
**ALLOWABLE FIN TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
(RECTANGULAR WAVE)**



**GATE TRIGGER CURRENT VS.
JUNCTION TEMPERATURE
(TYPICAL)**



**TURN ON TIME, TURN ON DELAY TIME
VS. TURN ON GATE CURRENT
(TYPICAL)**



FG1000BV

HIGH POWER INVERTER USE
PRESS PACK TYPE

