NEC
ELECTRON DEVICE

TRIAC
AC16BIF~AC16FIF

The AC16BIF~AC16FIF are fast-on terminal isolated modified TO-3 flange type triac granted RMS On-state current 16 amps. The glassivation technique applied to pellet's surface makes this series quite highly reliable.

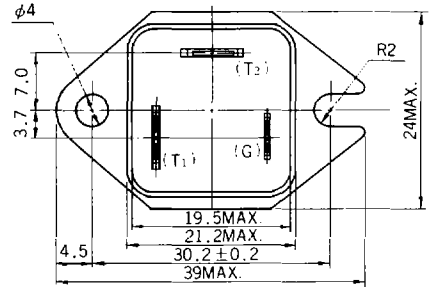
FEATURES

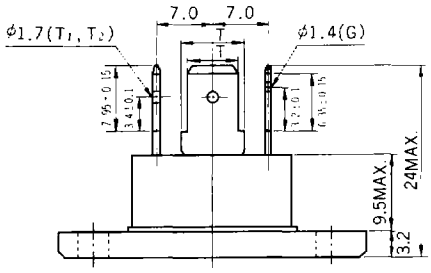
- Isolated type.
- Fast-on terminal.
- Modified TO-3 flange.
- Glassivated silicon chip.

APPLICATIONS

- Microwave oven control.
- Temperature controllers.
- Lamp dimmer.
- Various solid state switches.

Outline Drawing (Unit : mm)





	T	T'	t
T1 terminal	6.35 ± 0.1	8.25MIN.	0.8
T2 terminal	6.35 ± 0.1	8.25MIN.	0.8
Gate terminal	4.75 ± 0.1	5.7MIN.	0.5

MAXIMUM RATINGS

Item	Symbol	AC16BIF	AC16DIF	AC16IEIF	AC16FIF	Unit	Note
Repetitive Peak Off-state Voltage	V_{DRM}	200	400	500	600	V	
Non-repetitive Peak Off-state Voltage	V_{DSM}	300	500	600	720	V	
RMS On-state Current	$I_{T(RMS)}$	16 (Tc=75°C)				A	See Fig.6
Surge On-state Current	I_{TSM}	150 (Initial T_j=125°C, 50Hz 1 cycle) 165 (Initial T_j=125°C, 60Hz 1 cycle)				A	See Fig.2
Fusing Current	$\int i_T^2 dt$	100				A^2S	
Critical Rate of Rise of On-state Current	dI_T/dt	50				A/μs	
Peak Gate Power Dissipation	P_{GM}	5 (f≧50Hz, Duty≦10%)				W	
Avarage Gate Power Dissipation	$P_{G(AV)}$	0.5				W	
Peak Gate Current	I_{GM}	3 (f≧50Hz, Duty≦10%)				A	
Junction Temperature	T_j	125				°C	
Strage Temperature	T_{stg}	−40 ~ 125				°C	

ELECTRICAL CHARACTERISTICS (T_j=25°C)

Item		Symbol	Test Condition	MIN.	TYP.	MAX.	Unit	Note
Peak Off-state Current		I_{DRM}	T_j=125°C, $V_{DM}=V_{DRM}$	−	−	2	mA	
On-state Voltage		V_{TM}	I_{TM}=25A	−	−	1.4	V	See Fig.1
Gate Trigger Voltage	Made I	V_{GT}	V_{DM} = 12V R_L = 30Ω	−	−	3	V	See Fig.3, Fig.4
	II			−	−	−		
	III			−	−	3		
	IV			−	−	3		
Gate Trigger Current	Mode I	I_{GT}	V_{DM} = 12V R_L = 30Ω	−	−	50	mA	See Fig.3, Fig.4
	II			−	−	−		
	III			−	−	50		
	IV			−	−	50		
Gate Non-Trigger Voltage		V_{GD}	T_j=125°C, V_D=1/2V_{DRM}	0.3	−	−	V	
Thermal Resistance		$R_{th(j-c)}$	Junction to case	−	−	3.0	°C/W	See Fig.8
Dielectric Strength		V_I	T_2, T_1, G each Terminal to flange 1 min.	AC 1500	−	−	V	
			T_2, T_1 G each Terminal to flange 1 sec.	AC 1800	−	−		
Holding Current		I_H	I_{TM}=25A	−	40	−	mA	
Cirtical Rate of Rise of Commutating Off-state Voltage (*1)		$(dV_D/dt)_C$	T_j=125°C I_{TM}=22A $(dI_T/dt)_C$=8A/ms, V_{DM} = (*2)V	10	−	−	V/μs	L
				1	−	−		R

(*1) Add L or R to the end of type number according to applications.
Ex. AC16FIF L
Type No. Spec.

(*2) AC16BIF : 200V
AC16DIF ~ FIF : 400V

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Fig. 1 $i_T - v_T$ Characteristic

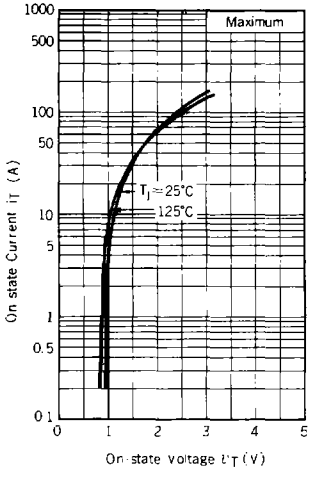


Fig. 2 I_{TSM} Rating

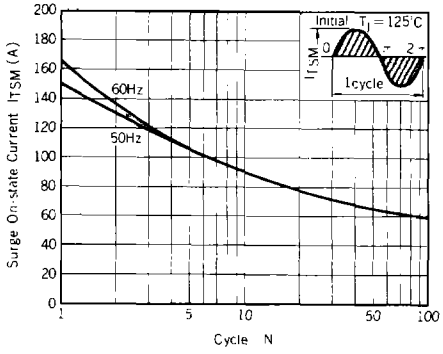


Fig. 3 Gate Rating

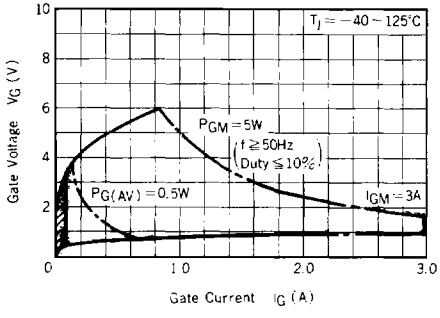


Fig. 4 Gate Characteristic

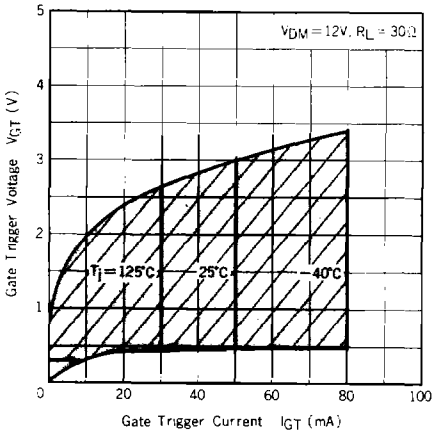


Fig. 5 $P_{T(AV)} - I_{T(RMS)}$ Characteristic

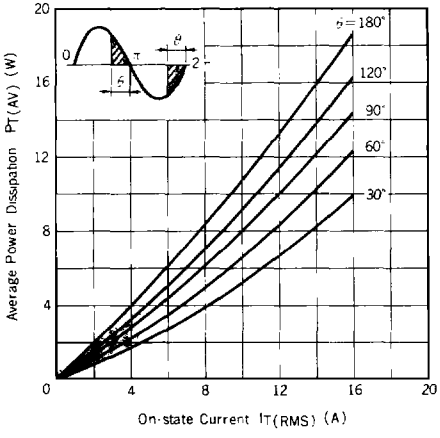


Fig. 6 $T_C - I_{T(RMS)}$ Rating

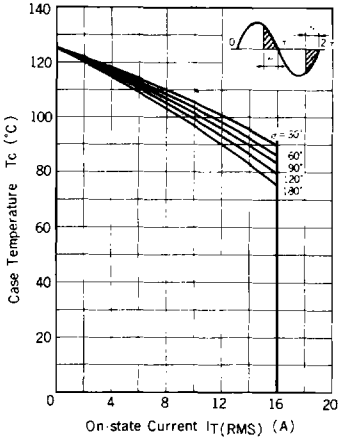


Fig. 7 Ta — $I_{T(RMS)}$ Rating

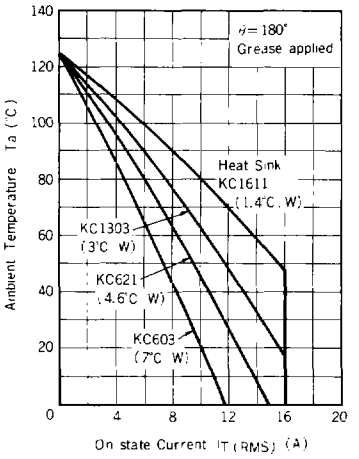
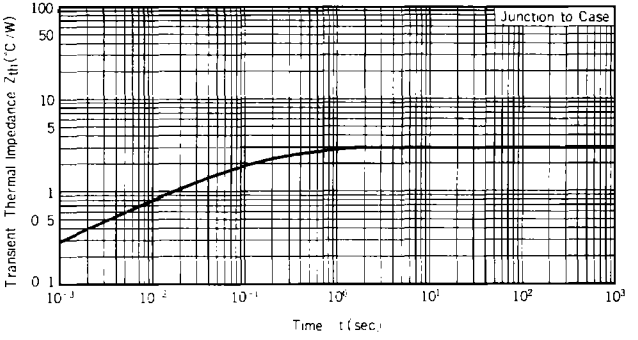


Fig. 8 Zth Characteristic



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