

The C122F~C122M are a P gate all diffused mold type SCR granted 8Amp On-state Current. The glassivation technique applied to pellet's surface makes this series quite highly reliable.

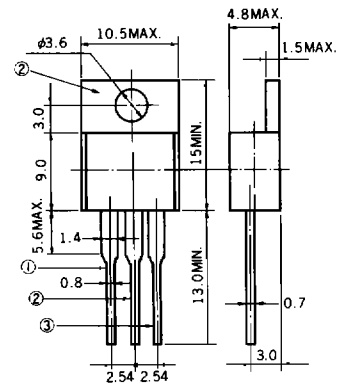
FEATURES

- Glassivated silicon chip for maximum reliability.
- Easy installation by TO-220 AB package.
- Low cost.

APPLICATIONS

- Motor speed control for household appliance.
- Temperature control for heater and constant temperature box.
- Constant voltage power source and battery charger.
- Automotive application such as regulator.
- Various solid state relay etc.

Outline Drawing (Unit: mm)



Pin Connection
 1. Cathode
 2. Anode
 3. Gate

MAXIMUM RATINGS

Item	Symbol	F	A	B	C	D	E	M	Unit	Note
Non-Repetitive Peak Reverse Voltage	V_{RSM}	75	200	300	400	500	600	700	V	
Non-Repetitive Peak Off-State Voltage	V_{DSM}	75	200	300	400	500	600	700	V	
Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	500	600	V	
Repetitive Peak Off-State Voltage	V_{DRM}	50	100	200	300	400	500	600	V	
RMS On-State Current	$I_T(RMS)$	8 (All conduction angles)							A	
Average On-State Current	$I_R(AV)$	See Fig. 4 and 6							A	
Critical Rate-Of-Rise of On-State Current	di/dt	100 (Switching from 200 Volts) 50 (Switching from 500 Volts)							A/ μ S	
Surge On-State Current	I_{TSM}	90 (60Hz), 82 (50Hz)							A	Fig. 2
Fusing Current	$\int i_T^2 dt$	34 (at 8.3ms), 27 (at 1.5ms)							A ² S	
Peak Gate Power Dissipation	P_{GM}	5 (10 μ s pulse width)							W	
Average Gate Power Dissipation	$P_{G(AV)}$	0.5							W	
Peak Gate Forward Current	I_{FGM}	See Fig. 7							A	
Peak Gate Reverse Voltage	V_{RGM}	5							V	
Junction Temperature	T_j	-40 ~ +100							°C	
Storage Temperature	T_{stg}	-40 ~ +125							°C	

ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ.	MAX.	Unit	Note	
Repetitive Peak Reverse Current	I _{RRM}	V _{RM} =V _{RRM}	T _C =+25°C	—	—	0.1	mA	
			T _C =+100°C	—	—	0.5		
Repetitive Peak Off-State Current	I _{DRM}	V _{DM} =V _{DRM}	T _C =+25°C	—	—	0.1	mA	
			T _C =+100°C	—	—	0.5		
On-State Voltage	V _{TM}	T _C =+25°C, I _{TM} =16A peak	—	—	1.83	V	Fig. 1	
Gate-Trigger Current	I _{GT}	T _C =+25°C V _{DM} =6V R _L =91Ω	T _C =+25°C	—	—	25	mA	Fig. 9,10
			T _C =-40°C	—	—	40		
Gate-Trigger Voltage	V _{GT}	T _C =+25°C V _{DM} =6V R _L =91Ω	T _C =+25°C	—	—	1.5	V	Fig. 8
			T _C =-40°C	—	—	2.0		
Gate Non-Trigger Voltage	V _{GD}	T _C =+100°C, V _{DM} =V _{DRM} R _L =1 kΩ	0.2	—	—	V		
Critical Rate of Rise of Off-State Voltage	dv/dt	T _C =+100°C, V _{DM} =V _{DRM} Gate Open Circuited Linear Waveform	10	50	—	V/μs		
Holding Current	I _H	V _{DM} =24V	T _C =+25°C	—	—	30	mA	Fig. 11
			T _C =-40°C	—	—	60		
Latching Current	I _L	V _{DM} =24V	T _C =+25°C	—	—	60	mA	
			T _C =-40°C	—	—	120		
Circuit Commutated Turn-off Time	t _q	T _C =+100°C, I _{TM} =10A peak di/dt=-5A/μs, V _D =V _{DRM} V _R ≥12V, dv/dt=10v/μs	—	50	—	μs		
Thermal Resistance	R _{th(j-c)}	Junction to case	—	—	1.8	°C/W	Fig. 12	
	R _{th(j-a)}	Junction to Ambient	—	—	75			

Fig. 1 i_T-V_T Characteristic

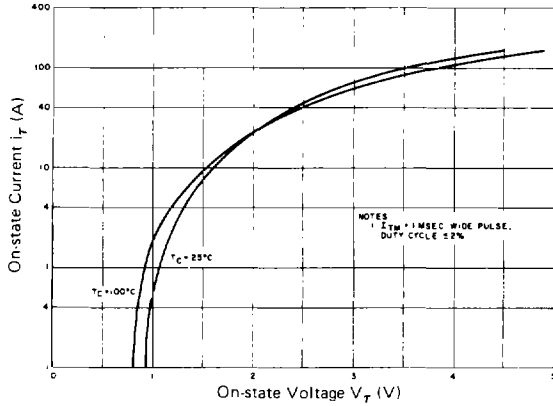


Fig. 2 I_{TSM} Rating

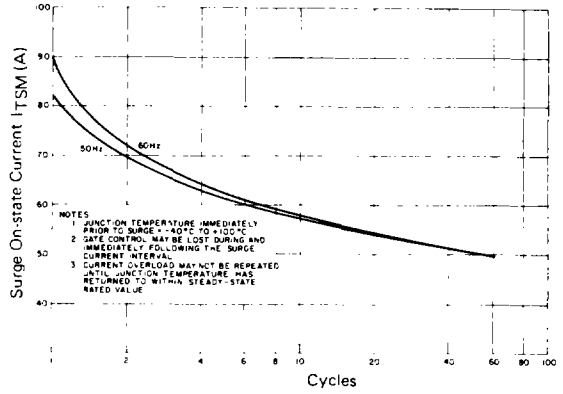


Fig. 3 $P_T(AV)-I_T(AV)$ Characteristic (For Half Wave)

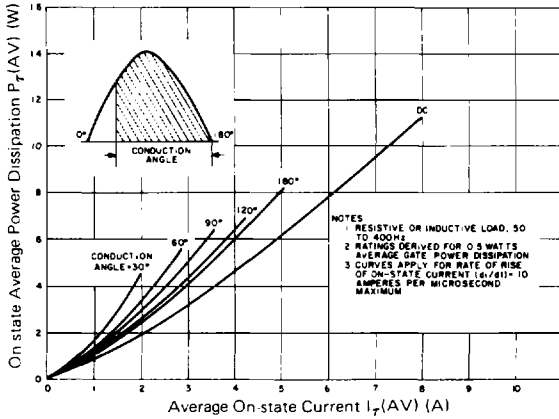


Fig. 4 $T_C-I_T(AV)$ Rating (For Half Wave)

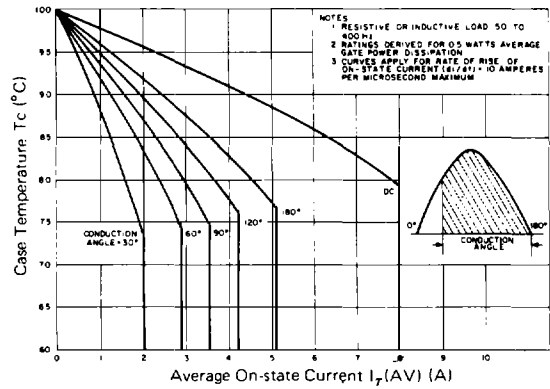


Fig. 5 $P_T(AV) - I_T(AV)$ Characteristic (For Full Wave)

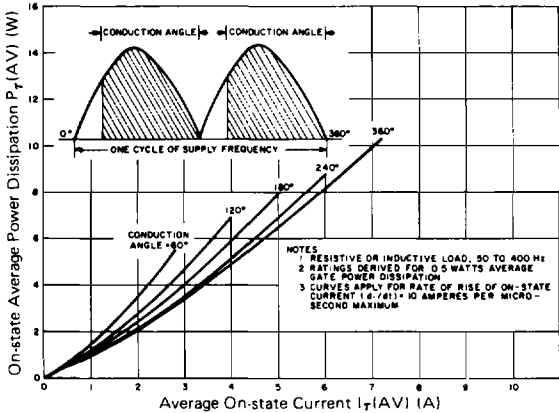


Fig. 6 $T_C - I_T(AV)$ Rating (For Full Wave)

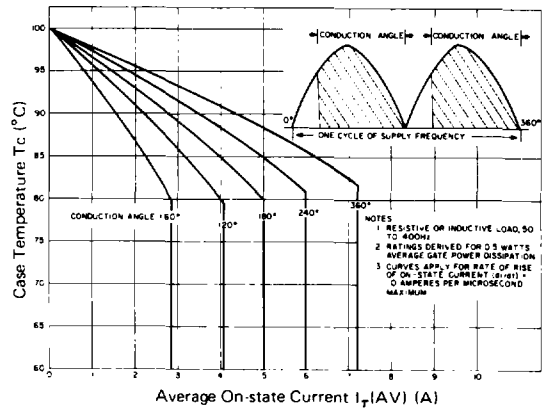


Fig. 7 Gate Characteristic

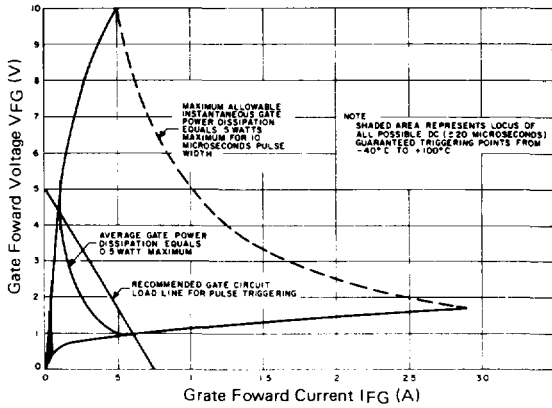


Fig. 8 VGT-Tc Characteristic

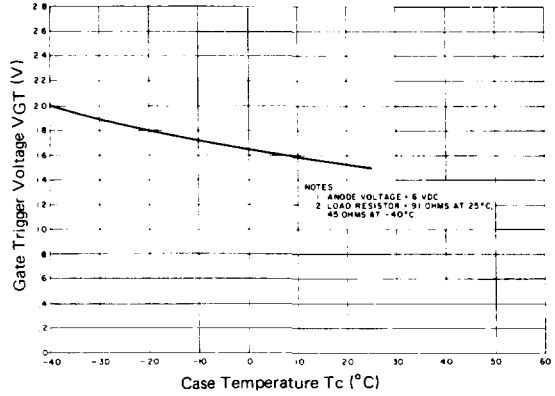


Fig. 9 IGT-Tc Characteristic

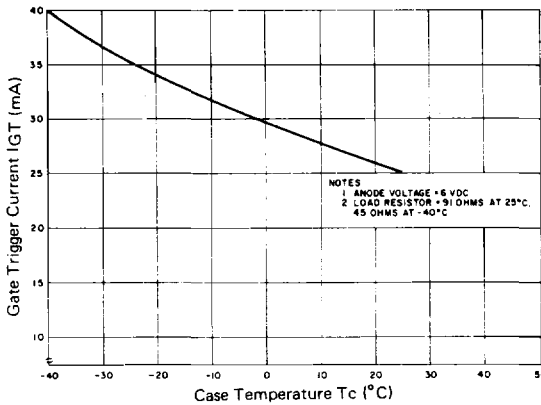


Fig. 10 Pulse IGT Characteristic

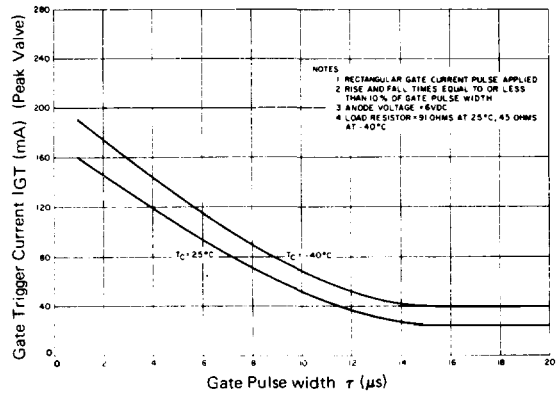


Fig. 11 I_H - Tc Characteristic

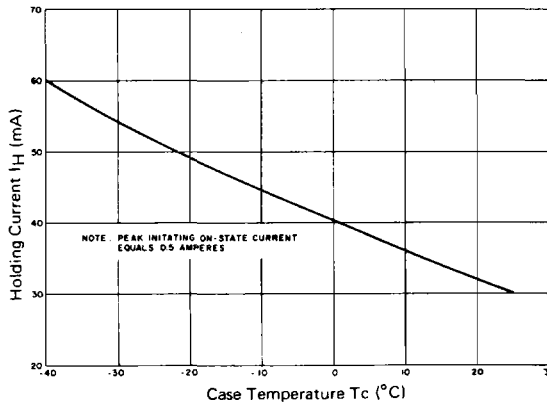


Fig. 12 Zth Characteristic

