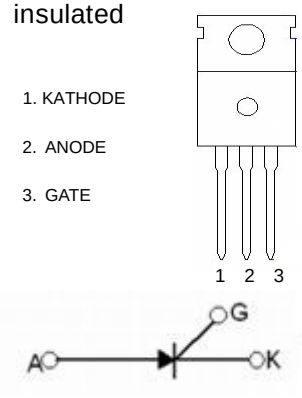
Silicon Planar PNPN Thyristor (16A SCR)

MAIN FEATURES

Symbol	value	unit
$I_{T(RMS)}$	16	A
V_{DRM}/V_{RRM}	600	V
I_{TSM}	130	A

TO-220A
insulated



GENERAL DESCRIPTION

- Glass passivated triacs in a plastic envelope , intended for use in applications requiring high bidirectional transient andblocking voltage capability and high thermal cycling performance.
- Typical applications include motor control, industrial and domestic lighting , heating and static switching.

ABSOLUTE MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

symbol	parameter			value	unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)	D^2 PAK/TO-220	T_C=107℃	16	A
I_{TSM}	Non repetitive surge peak on-state current (full sine wave, Tj =25℃)			130	A
I_{GM}	Peak gate current			2	A
$P_{G(AV)}$	Average gate power dissipation		T_j=125℃	0.5	W
T_{stg}	Storage junction temperature range			-40 to +150	℃
T_j	Operating junction temperature range			-40 to +125	

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Rated repetitive peak off-state/reverse voltage	V_{DRM},V_{RRM}	I_D=10μA	600		V
Rated repetitive peak off-state current	I_{DRM}, I_{RRM}	V_D=620V		10	μA
On-state voltage	V_{TM}	I_T=12A		1.7	V
Gate trigger current	I_{GT}	V_D=12V R_L=100Ω		20	mA
Gate trigger voltage	V_{GT}	V_D=12V R_L=100Ω		1.45	V
Holding current	I_H	I_T =100mA I_G = 20mA		30	mA

Typical Characteristics

Figure 1. Maximum average power dissipation versus average on-state current

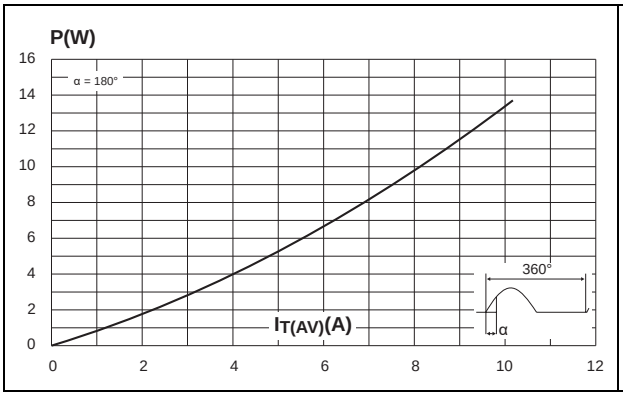


Figure 2. Average and D.C. on-state current versus case temperature

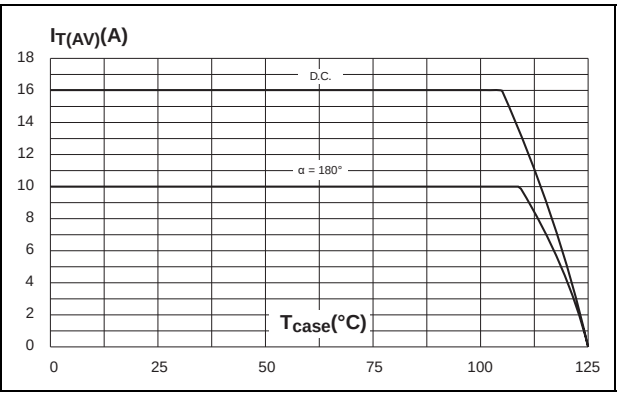


Figure 3. Average and D.C. on-state current versus ambient temperature (copper surface under tab: S=1cm^2) (D^{2}PAK)

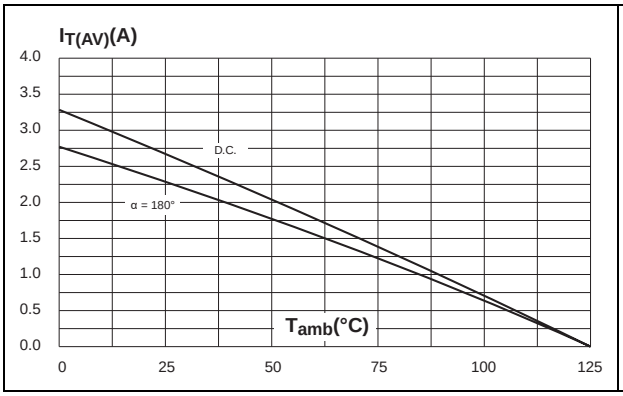


Figure 4. Relative variation of thermal impedance versus pulse duration

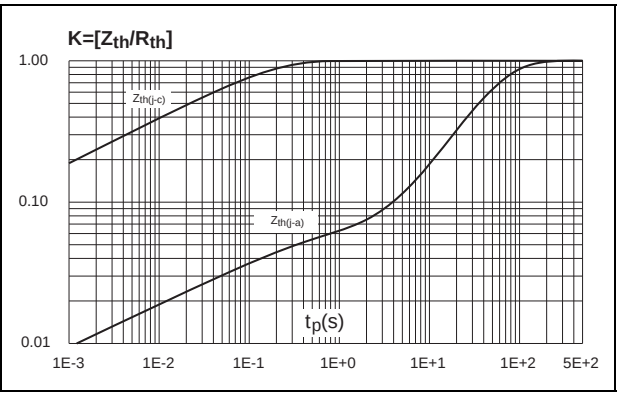


Figure 5. Relative variation of gate trigger current, holding current and latching current versus junction temperature

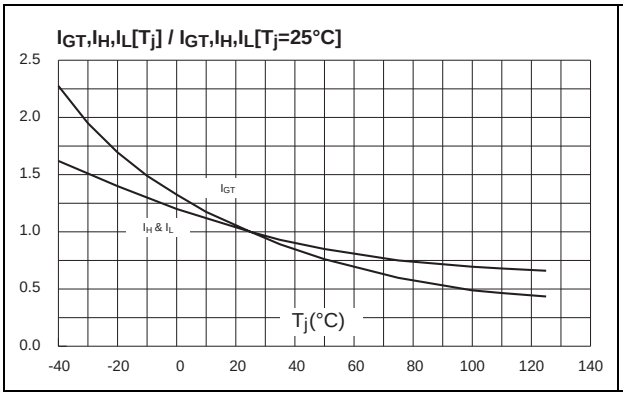
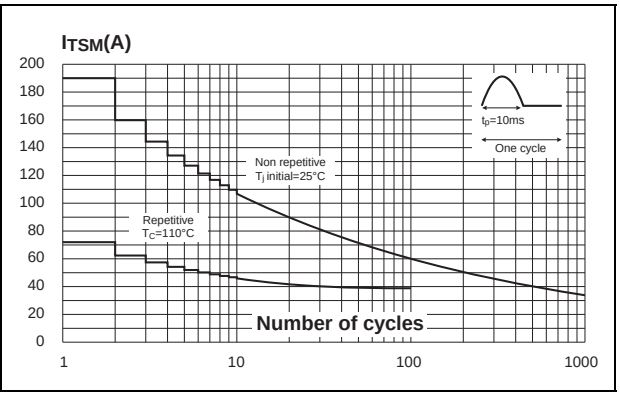


Figure 6. Surge peak on-state current versus number of cycles



Typical Characteristics(Con.)

Figure 7. Non-repetitive surge peak on-state current for a sinusoidal pulse with width t_p < 10 ms, and corresponding values of I^2t

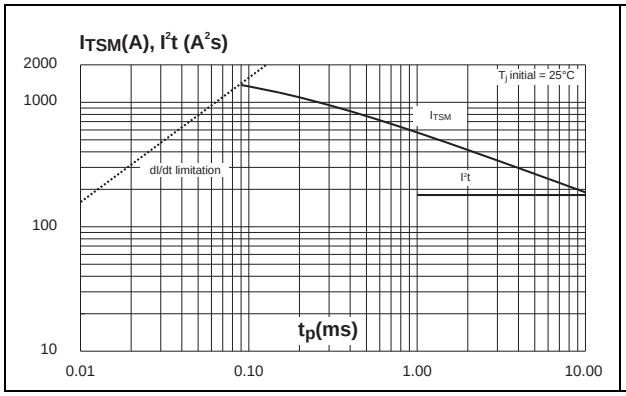


Figure 8. On-state characteristics (maximum values)

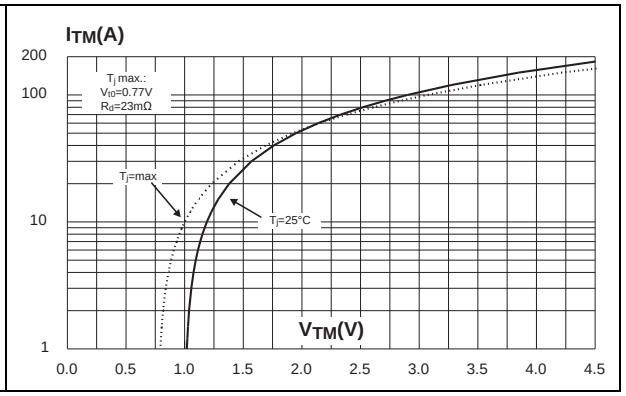


Figure 9. Thermal resistance junction to ambient versus copper surface under tab (epoxy printed circuit board FR4, copper thickness: 35 µm) (D^2PAK)