



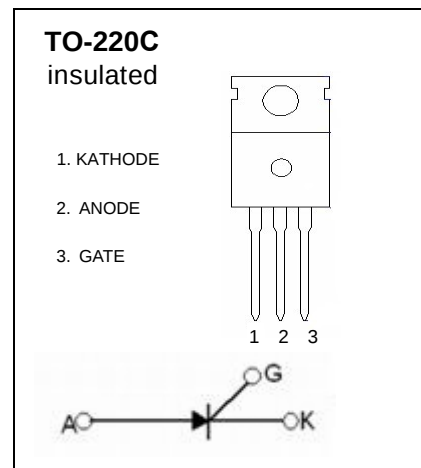
Silicon Planar PNP Thyristor (16A SCR)

MAIN FEATURES

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

GENERAL DESCRIPTION

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



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

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

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

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



Typical Characteristics

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

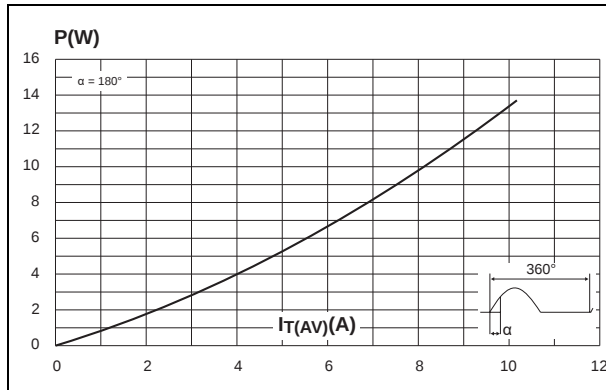


Figure 2. Average and D.C. on-state current versus case temperature

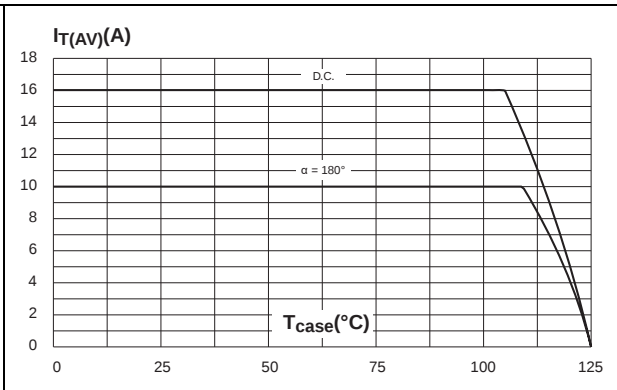


Figure 3. Average and D.C. on-state current versus ambient temperature (copper surface under tab: $S=1cm^2$) (D^2PAK)

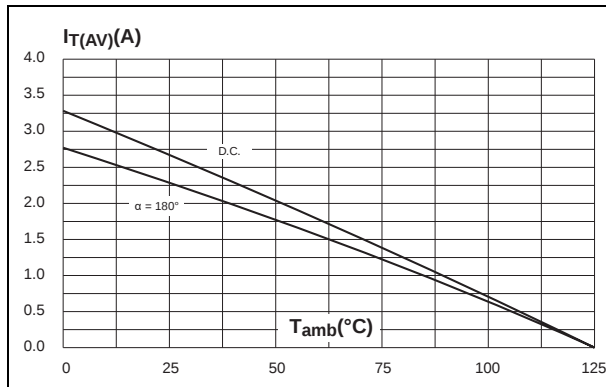


Figure 4. Relative variation of thermal impedance versus pulse duration

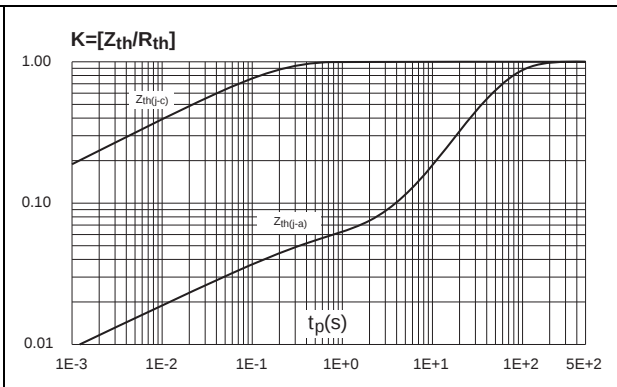


Figure 5. Relative variation of gate trigger current, holding current and latching current versus junction temperature

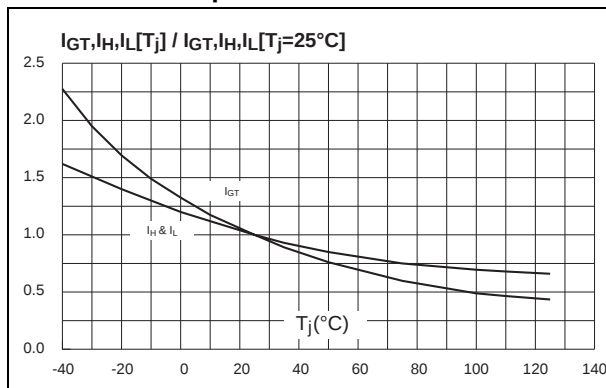
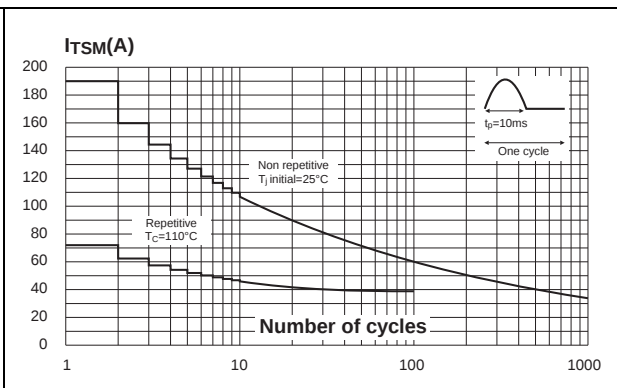


Figure 6. Surge peak on-state current versus number of cycles





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

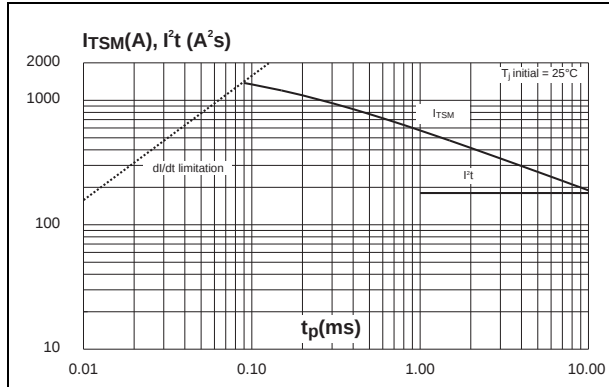


Figure 8. On-state characteristics (maximum values)

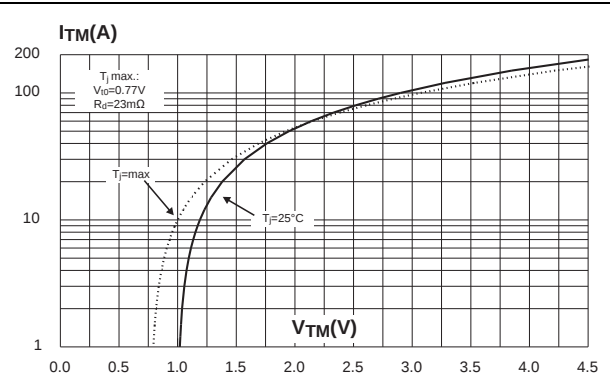


Figure 9. Thermal resistance junction to ambient versus copper surface under tab (epoxy printed circuit board FR4, copper thickness: 35 μm) (D²PAK)

