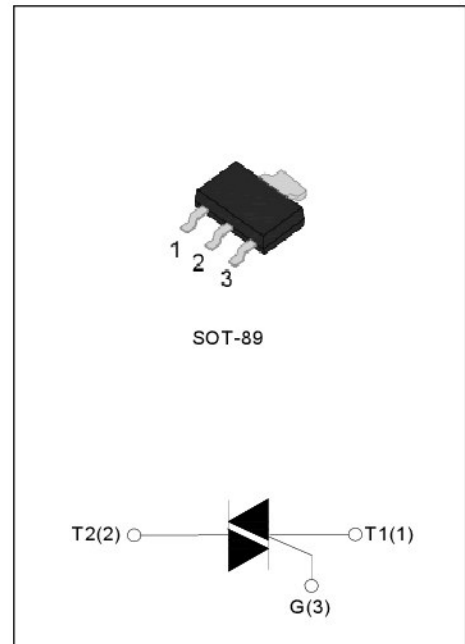


97A6/97A8 DESCRIPTION:

With low holding and latching current, 97A6/8 series triacs are especially recommended for use on middle and small resistance type power load.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
I_{TSM}	16	A
V_{TM}	≤ 1.5	V



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit	
Storage junction temperature range	T_{stg}	-40 - 150	$^{\circ}C$	
Operating junction temperature range	T_j	-40 - 125	$^{\circ}C$	
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	600/800	V	
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	600/800	V	
Non repetitive surge peak off-state voltage	V_{DSM}	$V_{DRM} + 100$	V	
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	V	
RMS on-state current	$I_{T(RMS)}$	TO-92 ($T_c=51^{\circ}C$)	1	A
		SOT-89/ SOT-223/ SOT-89-2L/ SOT-223-2L ($T_c=70^{\circ}C$)		
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	16	A	
I^2t value for fusing ($t_p=10ms$)	I^2t	1.28	A^2s	
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	20	$A/\mu s$	

Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W

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

Symbol	Test Condition	Quadrant		Value		Unit
				T	D	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II - III	MAX	5	5	mA
		IV		5	10	
V_{GT}		ALL	MAX	1.3		V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C}$ $R_L=3.3\text{K}\Omega$	ALL	MIN	0.2		V
I_L	$I_G=1.2I_{GT}$	I - III	MAX	5	5	mA
		II - IV		10	20	
I_H	$I_T=200\text{mA}$		MAX	5	7	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	15	50	V/ μs

STATIC CHARACTERISTICS

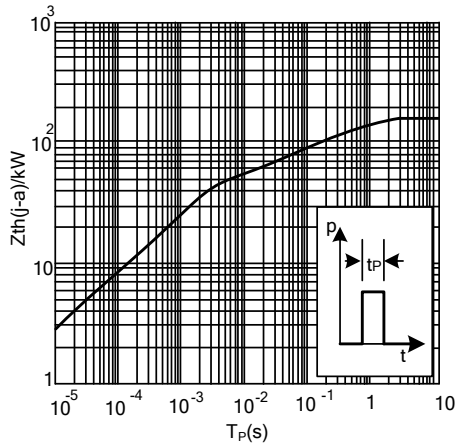
Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=1.4\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	μA
I_{RRM}		$T_j=125^\circ\text{C}$	500	μA

THERMAL RESISTANCES

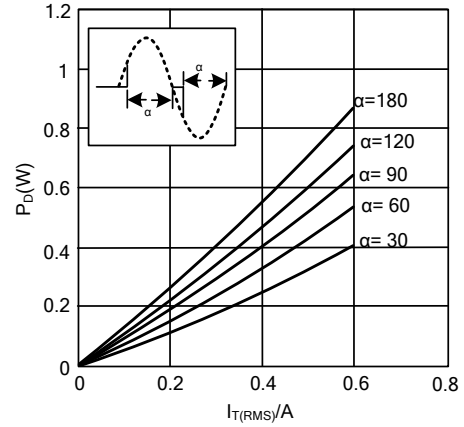
Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	$^\circ\text{C/W}$
		SOT-89/SOT-223/ SOT-89-2L/ SOT-223-2L	31	

■ TYPICAL CHARACTERISTICS

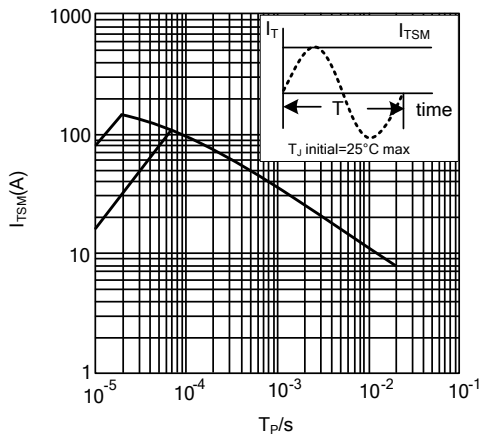
Transient Thermal Impedance From Junction to Ambient as a Function of Pulse Duration.



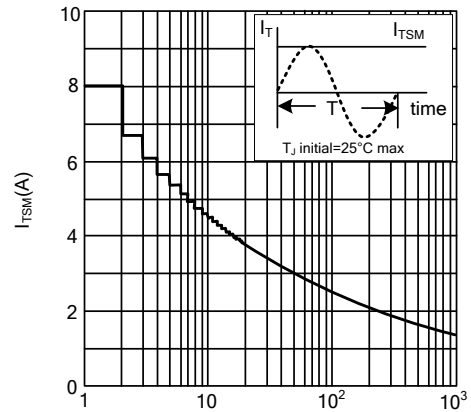
Maximum On-State Dissipation as a Function of RMS On-State Current; Typical Values. α =Conduction Angle.



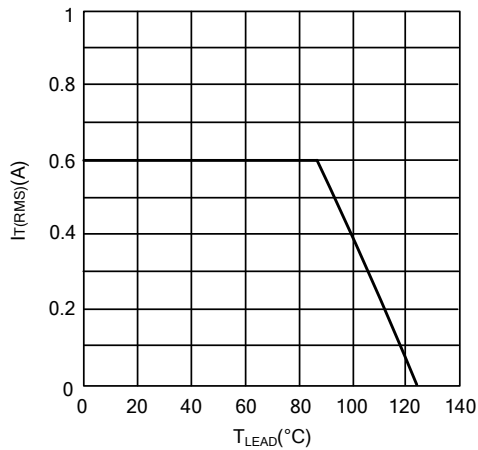
Maximum Permissible Non-Repetitive Peak on-State Current as a Function of Pulse Width for Sinusoidal Currents; Typical Values. $t_p \ll 20$ ms.



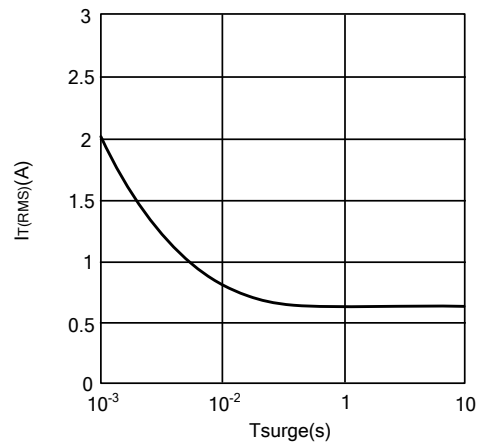
Maximum Permissible Non-Repetitive Peak On-State Current as a Function of Number of Cycles for Sinusoidal Currents; Typical Values. n=Number of Cycles at f=50Hz.



Maximum Permissible RMS Current as a Function of Lead Temperature; Typical Values.

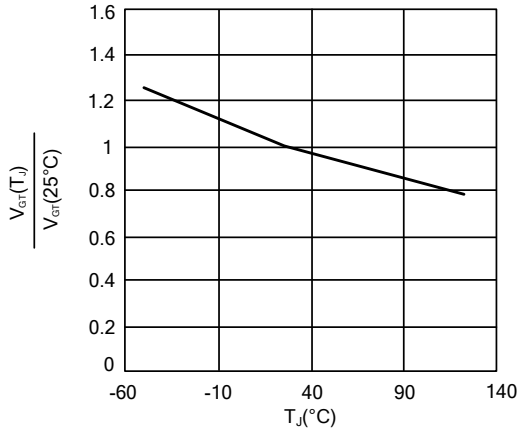


Maximum Permissible Repetitive RMS On-State Current as a Function of Surge Duration for Sinusoidal Currents; Typical Values. f=50Hz; TLEAD = 50°C

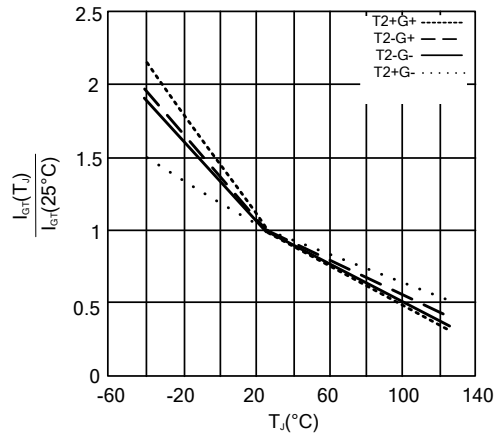


■ TYPICAL CHARACTERISTICS(Cont.)

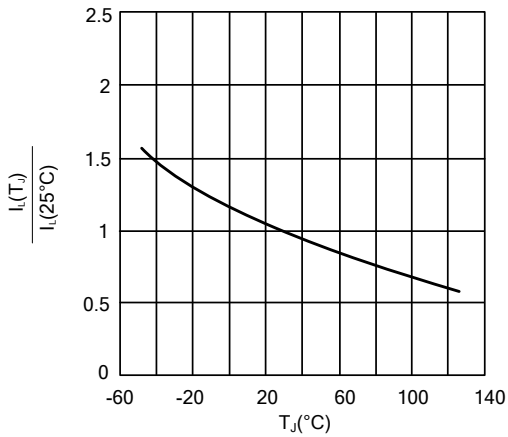
Normalized Gate Trigger Voltage as a Function of Junction Temperature; Typical Values.



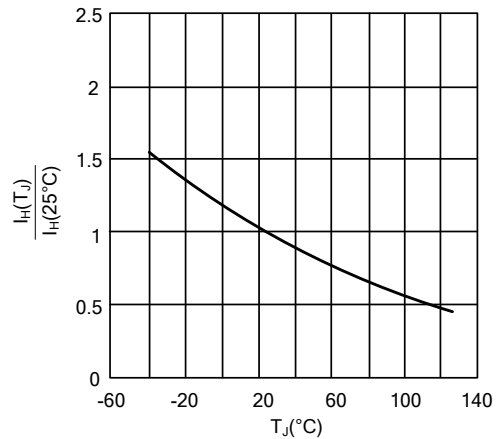
Normalized Gate Trigger Current as a Function of Junction Temperature; Typical Values.



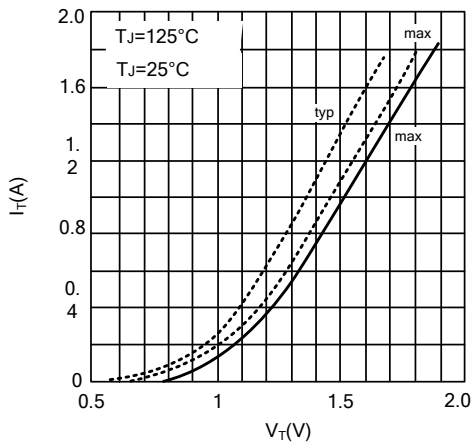
Normalized Latching Current as a Function of Junction Temperature; Typical Values.



Normalized Holding Current as a Function of Junction Temperature; Typical Values.



On-State Current as a Function of On-State Voltage; Typical and Maximum Values.



Critical Rate of Rise of Off-State Voltage as a Function of Junction Temperature; Typical Values.

