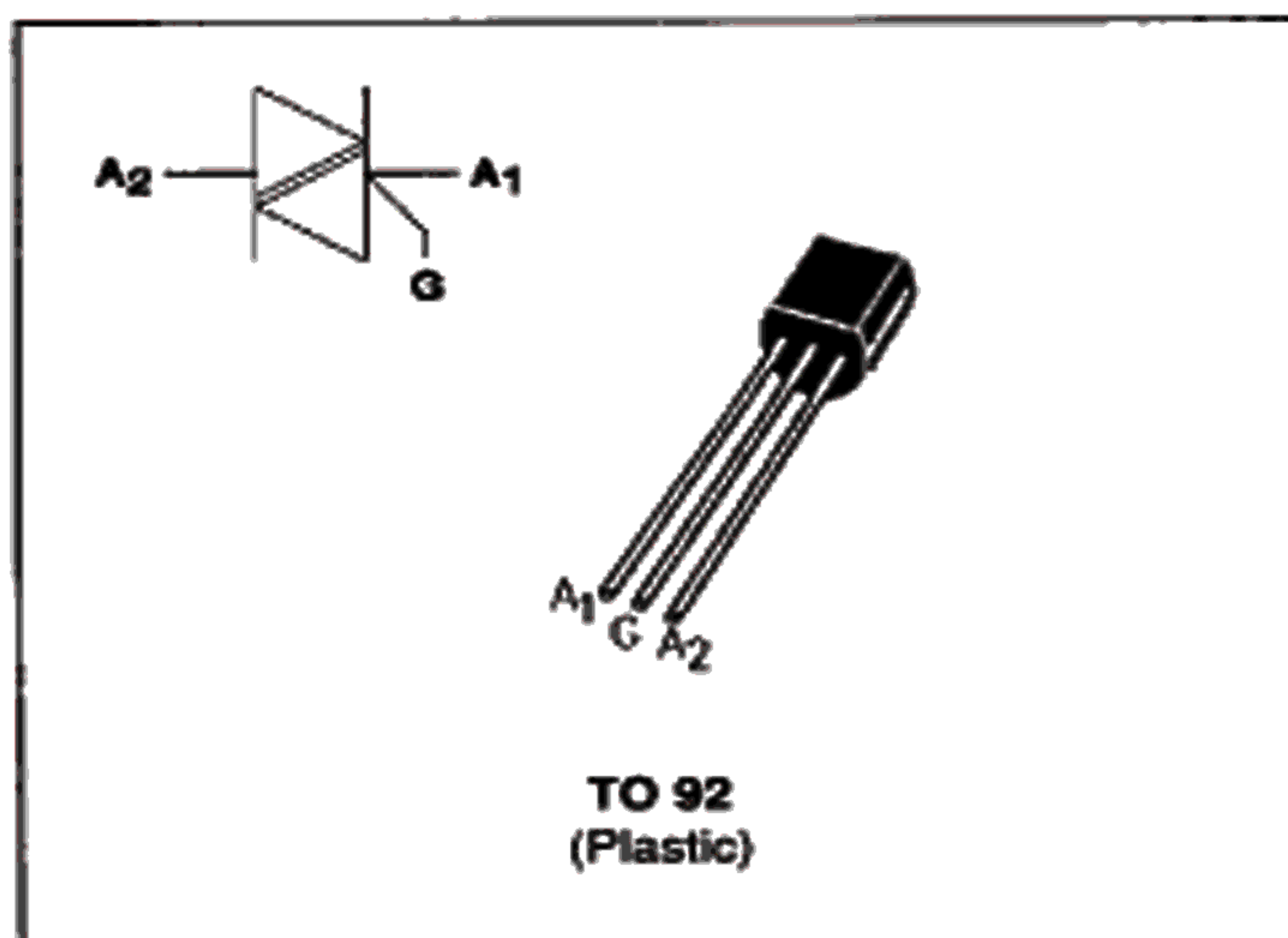


## SENSITIVE GATE TRIACS

### FEATURES

- $I_{T(RMS)} = 0.8 \text{ A}$
- $V_{DRM} = 200 \text{ V to } 600 \text{ V}$
- $I_{GT} \leq 10 \text{ mA}$



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current ( $360^\circ$ conduction angle )	$T_I = 55^\circ\text{C}$	0.8	A
	RMS on-state current on printed circuit ( $360^\circ$ Conduction angle )	$T_a = 30^\circ\text{C}$	0.5	
$I_{TSM}$	Non repetitive surge peak on-state current ( $T_J$ initial = $25^\circ\text{C}$ )	$t_p = 8.3 \text{ ms}$	8.5	A
		$t_p = 10 \text{ ms}$	8	
$i^2t$	$i^2t$ value	$t_p = 10 \text{ ms}$	0.32	$\text{A}^2\text{s}$
$di/dt$	Critical rate of rise of on-state current $I_G = 100 \text{ mA}$ $di_G/dt = 1 \text{ A}/\mu\text{s}$	Repetitive	10	$\text{A}/\mu\text{s}$
$T_{stg}$ $T_J$	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	$^\circ\text{C}$ $^\circ\text{C}$
$T_I$	Maximum lead temperature for soldering during 10 s		260	$^\circ\text{C}$

Symbol	Parameter	T08-			Unit
		2A	4A	6A	
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage $T_J = 125^\circ\text{C}$	200	400	600	V



**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient on printed circuit	150	$^{\circ}\text{C/W}$
$R_{th(j-l)}$	Junction to leads for 360° conduction angle ( $F = 50\text{ Hz}$ )	60	$^{\circ}\text{C/W}$

**GATE CHARACTERISTICS (maximum values)**

$P_{GM} = 2\text{ W}$  ( $t = 20\text{ }\mu\text{s}$ )     $P_G (AV) = 100\text{ mW}$      $I_{GM} = 1\text{ A}$  ( $t = 20\text{ }\mu\text{s}$ )     $V_{GM} = 16\text{ V}$  ( $t = 20\text{ }\mu\text{s}$ ).

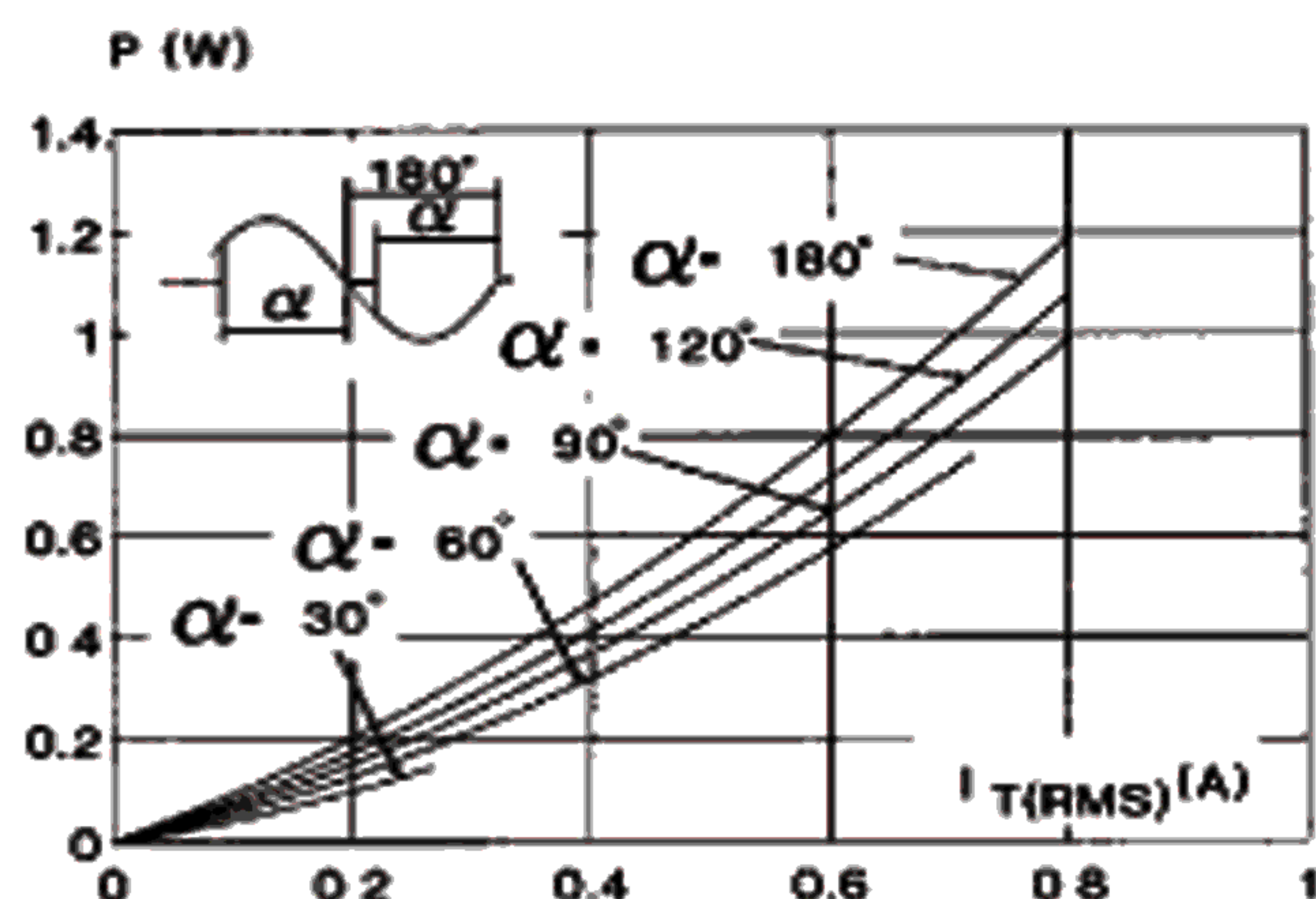
**ELECTRICAL CHARACTERISTICS**

Symbol	Test Conditions		Quadrant		Value	Unit
$I_{GT}$	$V_D=12V$ (DC) $R_L=140\Omega$	$T_J=25^{\circ}C$	I-II-III	MAX	10	mA
			IV		25	
$V_{GT}$	$V_D=12V$ (DC) $R_L=140\Omega$	$T_J=25^{\circ}C$	I-II-III-IV	MAX	1.5	V
$V_{GD}$	$V_D=V_{DRM}$ $R_L=3.3k\Omega$	$T_J=125^{\circ}C$	I-II-III-IV	MIN	0.2	V
$t_{gt}$	$V_D=V_{DRM}$ $I_G = 40mA$ $di_G/dt = 0.5A/\mu s$	$T_J=25^{\circ}C$	I-II-III-IV	TYP	2	$\mu s$
$I_L$	$I_G=1.2 I_{GT}$	$T_J=25^{\circ}C$	I-II-III-IV	MAX	25	mA
$I_H^*$	$I_T= 50mA$ gate open	$T_J=25^{\circ}C$		MAX	25	mA
$V_{TM}^*$	$I_{TM}= 1.2A$ $t_p= 380\mu s$	$T_J=25^{\circ}C$		MAX	1.9	V
$I_{DRM}$ $I_{RRM}$	$V_{DRM}$ Rated $V_{RRM}$ Rated	$T_J=25^{\circ}C$		MAX	0.01	mA
		$T_J=125^{\circ}C$		MAX	0.75	
$dV/dt^*$	Linear slope up to $V_D=67\%V_{DRM}$ gate open	$T_J=125^{\circ}C$		MIN	70	V/ $\mu s$
$(di/dt)_c^*$	$(dV/dt)_c = 2V/\mu s$	$T_J=125^{\circ}C$		MIN	0.75	A/ms

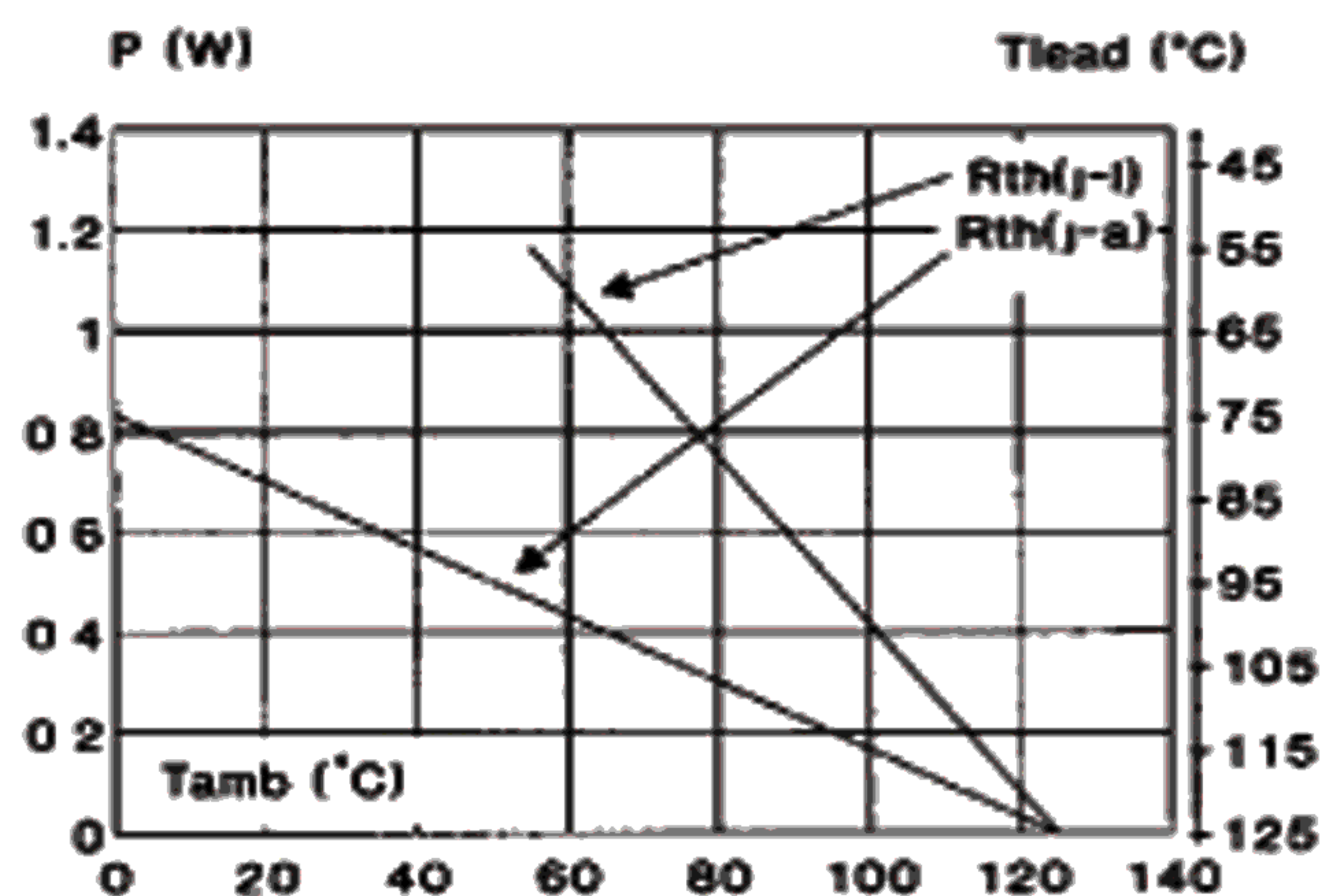
\* For either polarity of electrode A2 voltage with reference to electrode A1.



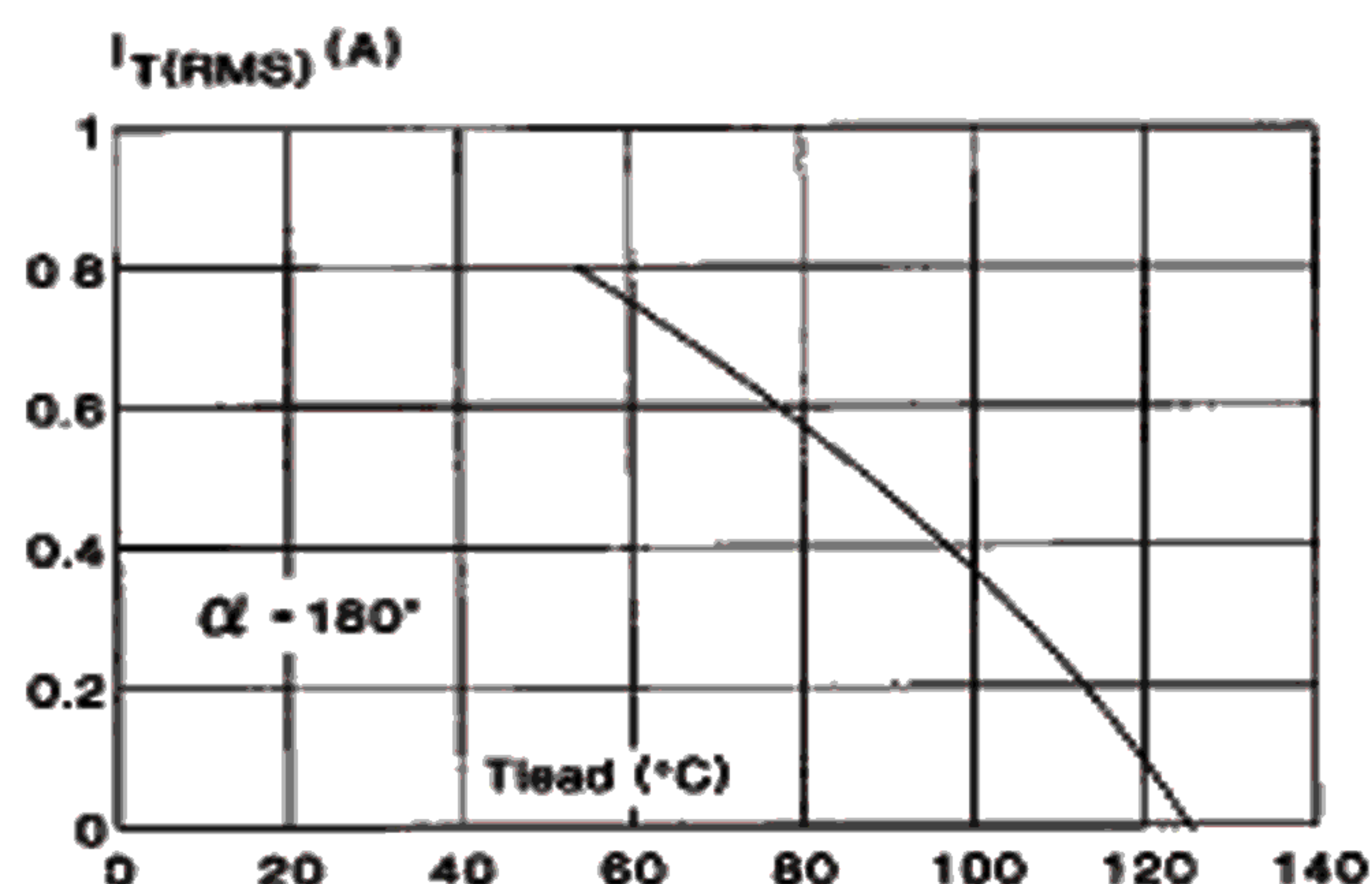
**Fig.1 :** Maximum RMS power dissipation versus RMS on-state current ( $F=50\text{Hz}$ ).  
(Curves are cut off by  $(di/dt)_c$  limitation)



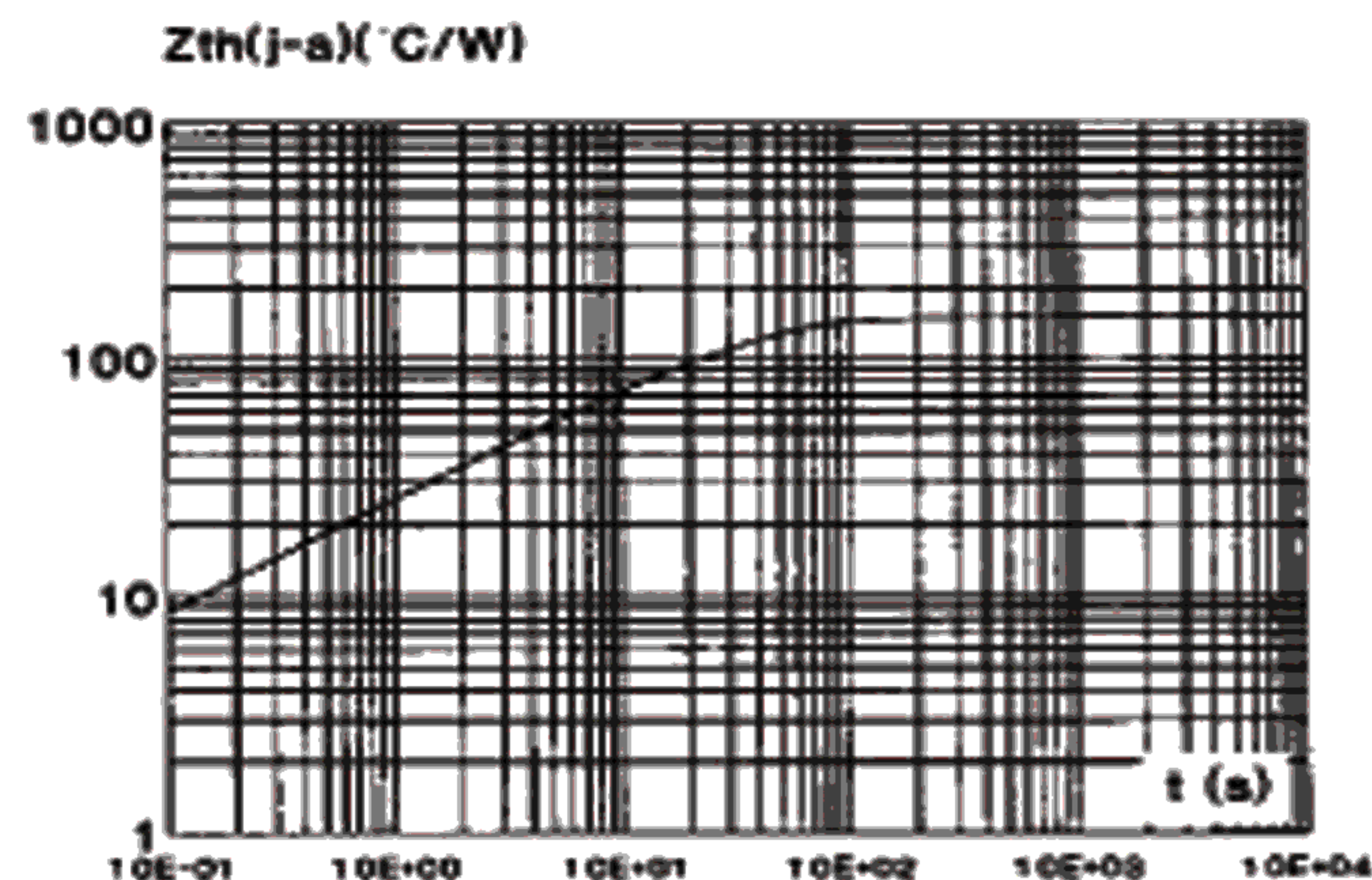
**Fig.2 :** Correlation between maximum RMS power dissipation and maximum allowable temperatures ( $T_{\text{amb}}$  and  $T_{\text{lead}}$ ).



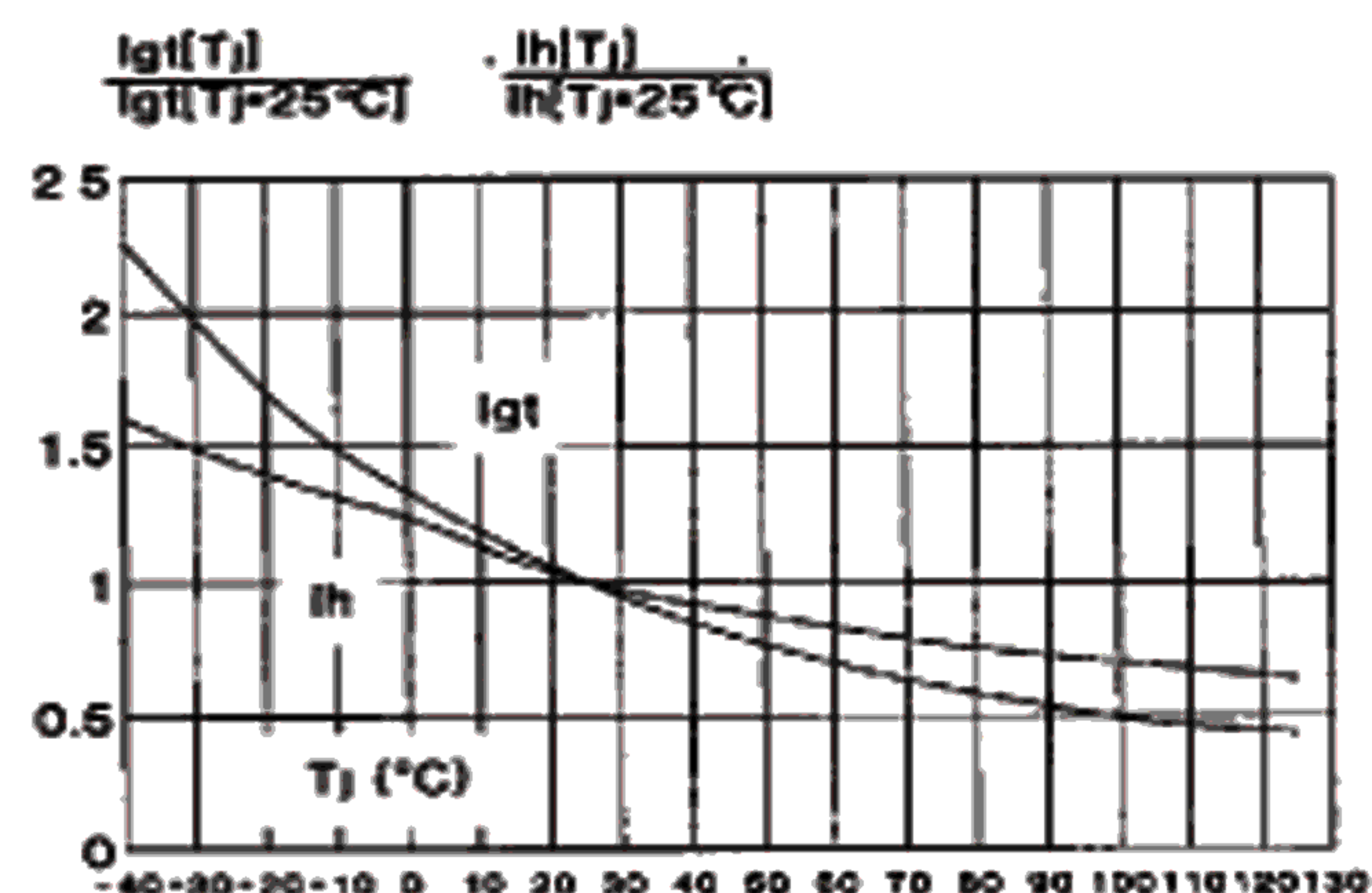
**Fig.3 :** RMS on-state current versus lead temperature.



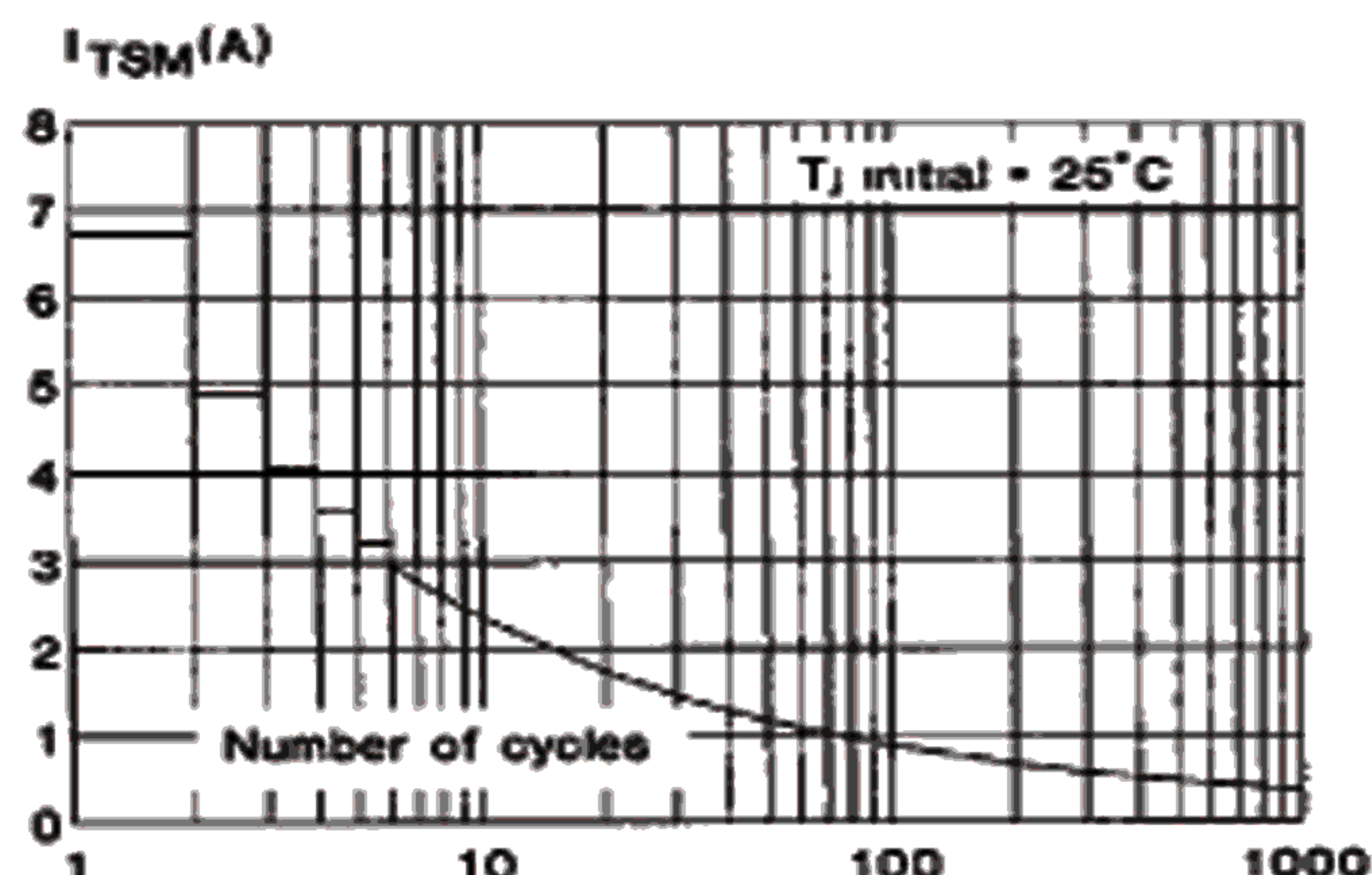
**Fig.4 :** Thermal transient impedance junction to ambient versus pulse duration.



**Fig.5 :** Relative variation of gate trigger current and holding current versus junction temperature.

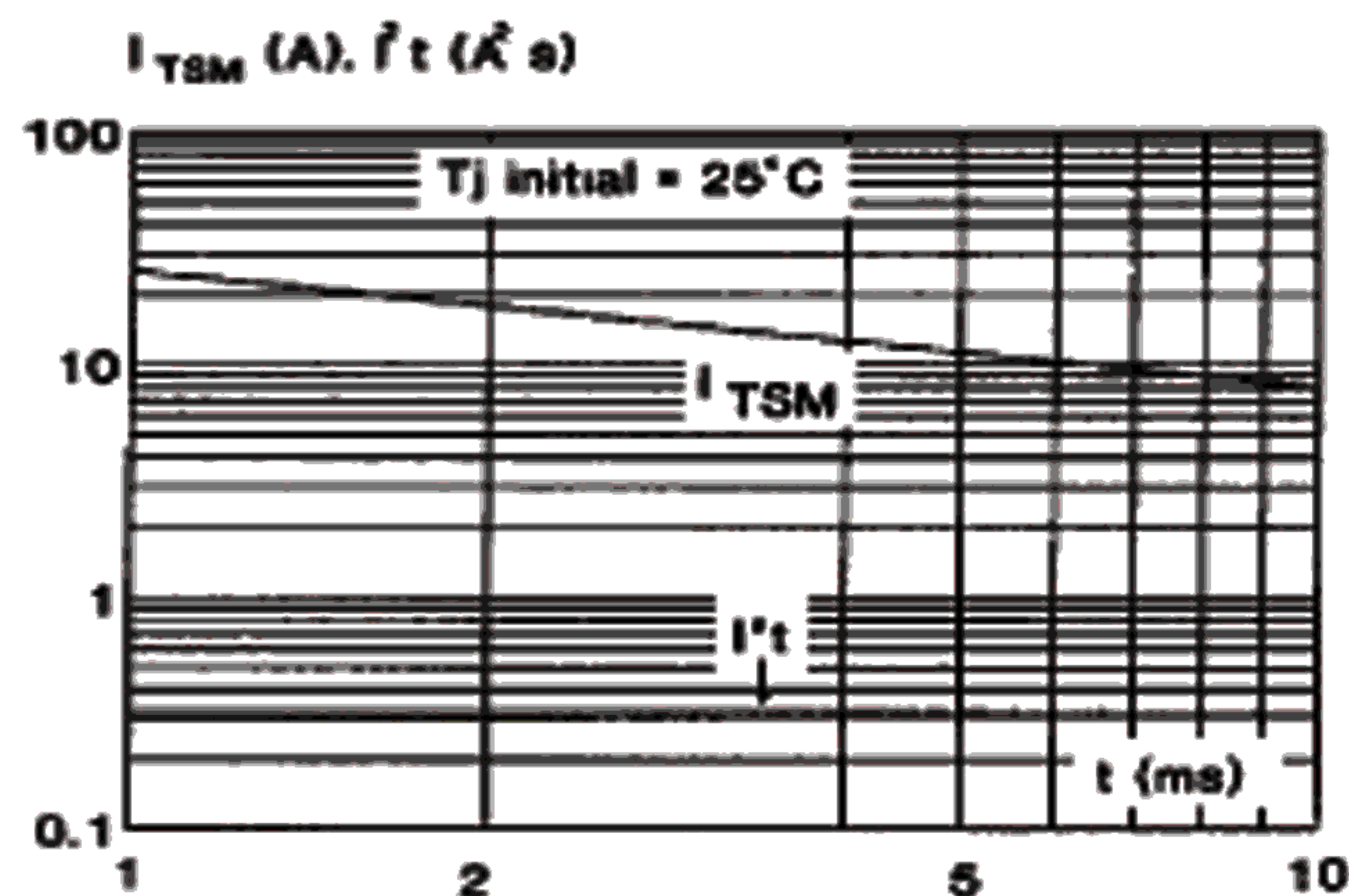


**Fig.6 :** Non Repetitive surge peak on-state current versus number of cycles.

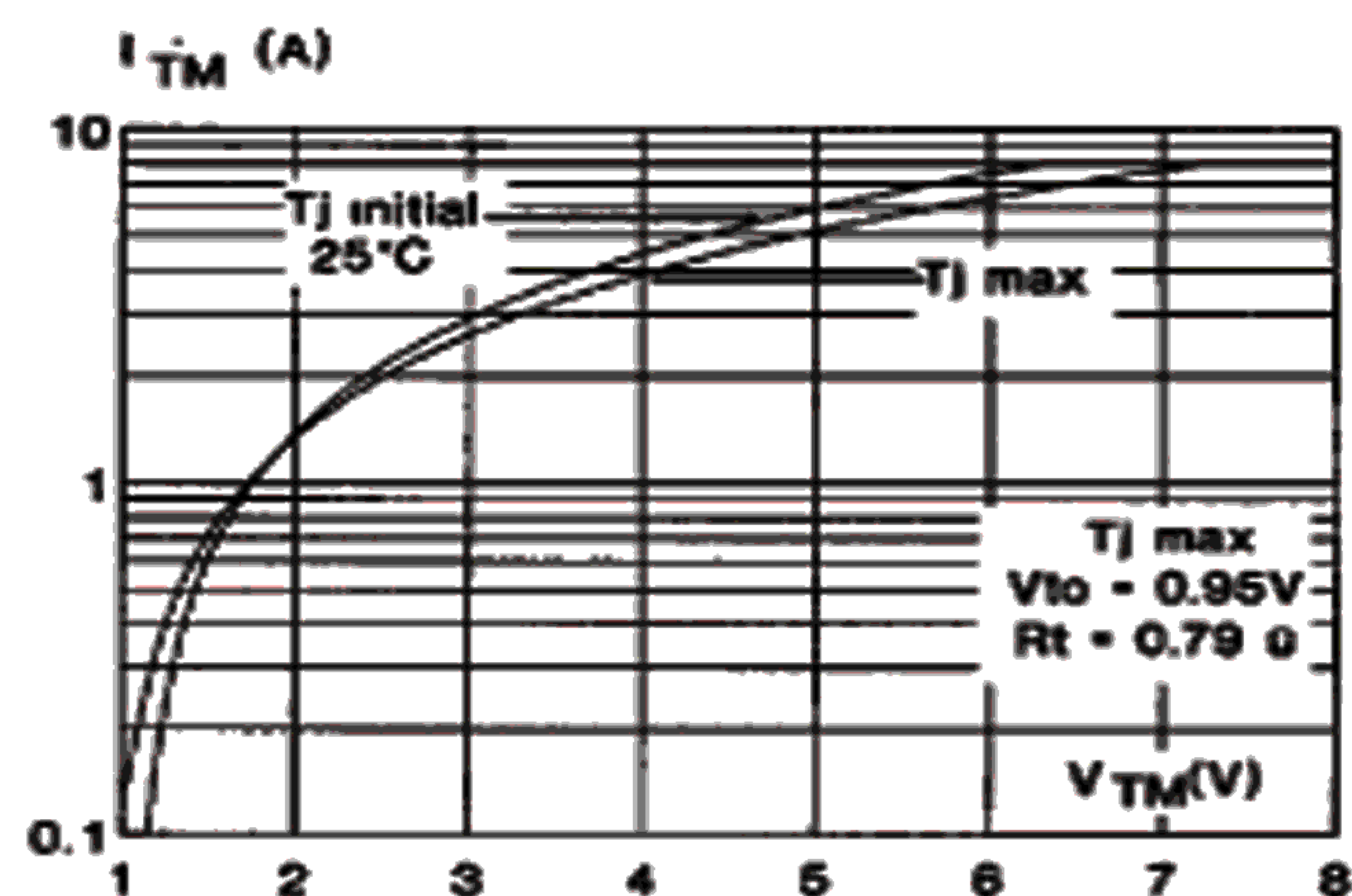




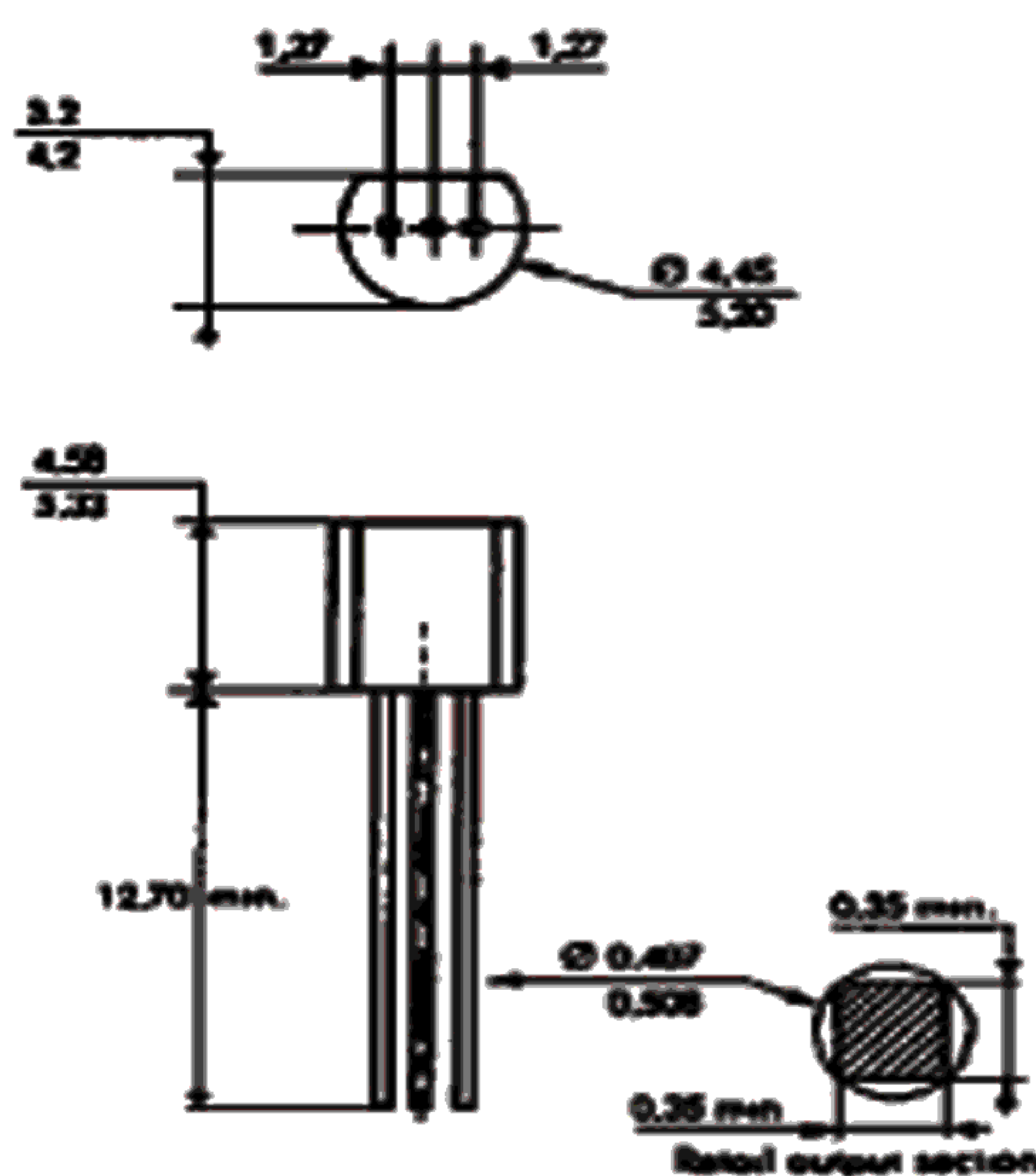
**Fig.7 :** Non repetitive surge peak on-state current for a sinusoidal pulse with width :  $t \leq 10\text{ms}$ , and corresponding value of  $I^2t$ .



**Fig.8 :** On-state characteristics (maximum values).



**PACKAGE MECHANICAL DATA (in millimeters)**  
**TO 92 Plastic**



Cooling method : by conduction (method C)  
Marking : type number  
Weight : 0.2 g  
Polarity : N A  
Stud torque : N A