

ALTERNISTORS

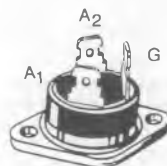
- $(di/dt)_c > 88 \text{ A/ms (400 Hz)}$
- INSULATING VOLTAGE : $2500 V_{RMS}$
($t \leq 1 \text{ mn} - F = 50 \text{ Hz}$)
- UL RECOGNIZED (EB1734)

APPLICATIONS

- POWER CONTROL ON INDUCTIVE LOAD
(motor, transformer...)
- HIGH FREQUENCY OR HIGH $(di/dt)_c$ LEVEL
CIRCUITS

DESCRIPTION

New range of solid state AC - switches with very high commutating capability.



RD 91
(Plastic)

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state Current (360° conduction angle)	$T_C = 80^\circ \text{C}$	25	A
I_{TSM}	Non Repetitive Surge Peak on-state Current	$t = 10 \text{ ms}$	230	A
		$t = 8.3 \text{ ms}$	250	
		$t = 2.5 \text{ ms}$	390	
I^2t	I^2t Value for Fusing	$t = 10 \text{ ms}$	265	A^2s
di/dt	Critical Rate of Rise of on-state Current (1)		100	$\text{A}/\mu\text{s}$
T_{slq} T_j	Storage and Operating Junction Temperature Range		- 40 to 125 - 40 to 125	$^\circ\text{C}$ $^\circ\text{C}$

Symbol	Parameter	TODV							Unit
		125	225	425	625	825	1025	1225	
V_{DRM}	Repetitive Peak off-state Voltage (2)	100	200	400	600	800	1000	1200	V

(1) $I_G = 1.5 \text{ A}$ $di/dt = 1 \text{ A}/\mu\text{s}$

(2) $T_j = 125^\circ\text{C}$.

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(c-h)}$	Contact (case-heatsink) with Grease	0.1	$^\circ\text{C}/\text{W}$
$R_{th(j-c)} \text{ DC}$	Junction to Case for DC	1.6	$^\circ\text{C}/\text{W}$
$R_{th(j-c)} \text{ AC}$	Junction to Case for 360° Conduction Angle ($F = 50 \text{ Hz}$)	1.2	$^\circ\text{C}/\text{W}$

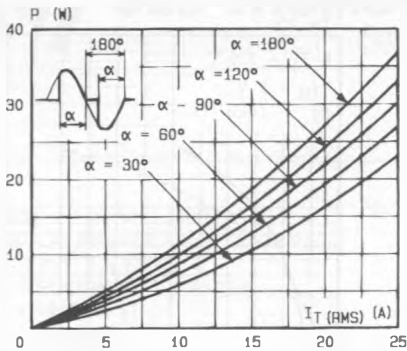


Fig.1 - Maximum mean power dissipation versus RMS on-state current.

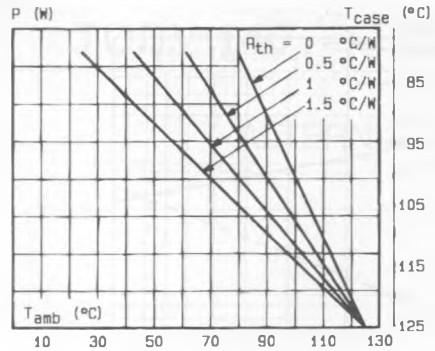


Fig.2 - Correlation between maximum mean power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact.

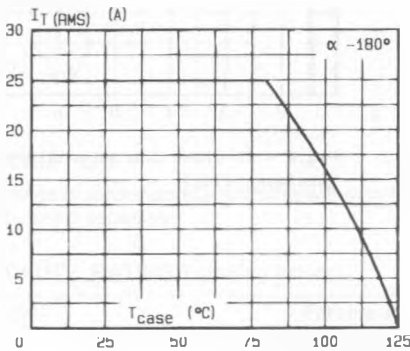


Fig.3 - RMS on-state current versus case temperature.

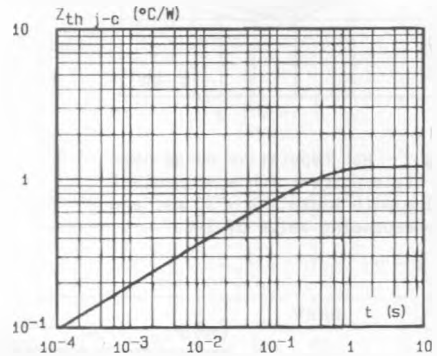


Fig.4 - Thermal transient impedance junction to case versus pulse duration.

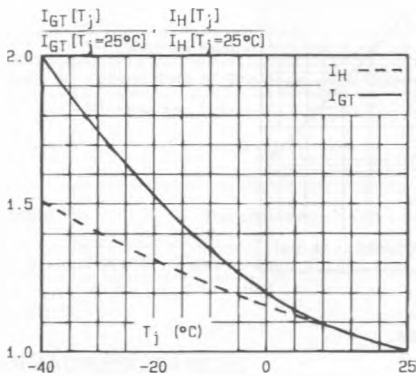


Fig.5 - Relative variation of gate trigger current and holding current versus junction temperature.

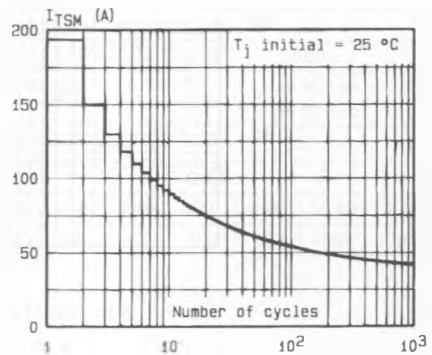


Fig.6 - Non repetitive surge peak on-state current versus number of cycles.

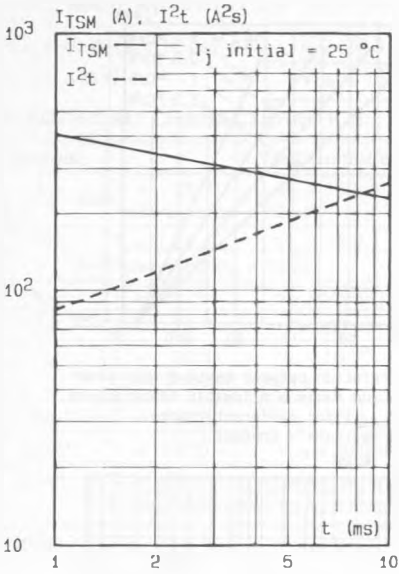


Fig.7 - Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10$ ms, and corresponding value of I^2t .

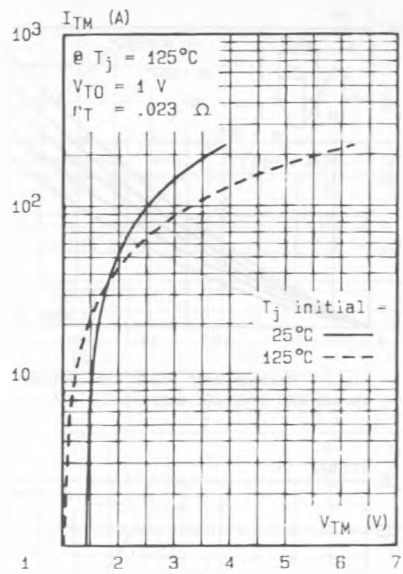


Fig.8 - On-state characteristics (maximum values).

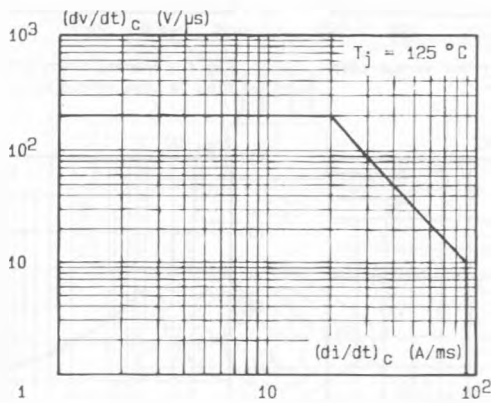


Fig.9 - Safe operating area.