

**ALTERNISTORS**

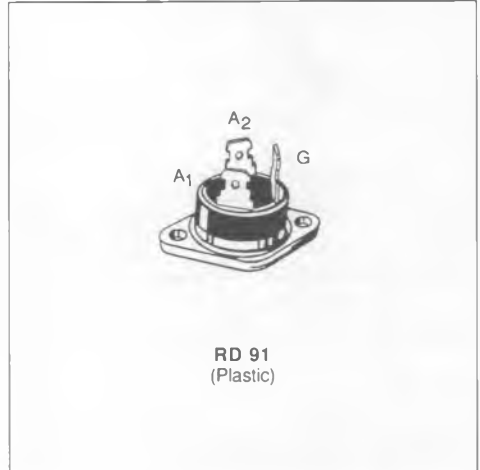
- $(di/dt)_c < 142 \text{ A/ms}$  (400 Hz)
- INSULATING VOLTAGE : 2500  $V_{RMS}$   
( $t \leq 1 \text{ mn}$  -  $F = 50 \text{ Hz}$ )
- UL RECOGNIZED (EB1734)

**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.


**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state Current (360° conduction angle)	$T_C = 75 \text{ }^\circ\text{C}$	40	A
$I_{TSM}$	Non Repetitive Surge Peak on-state Current	$t = 10 \text{ ms}$	350	A
		$t = 8.3 \text{ ms}$	370	
		$t = 2.5 \text{ ms}$	590	
$I^2t$	$I^2t$ Value for Fusing	$t = 10 \text{ ms}$	610	$\text{A}^2\text{s}$
$di/dt$	Critical Rate of Rise of on-state Current (1)		100	$\text{A}/\mu\text{s}$
$T_{stg}$ $T_j$	Storage and Operating Junction Temperature Range		- 40 to 125	$^\circ\text{C}$
			- 40 to 125	

Symbol	Parameter	TODV							Unit
		140	240	440	640	840	1040	1240	
$V_{DRM}$	Repetitive Peak off-state Voltage (2)	100	200	400	600	800	1000	1200	V

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

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

**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	1.2	$^\circ\text{C}/\text{W}$
$R_{th(j-c)} \text{ AC}$	Junction to Case for 360° Conduction Angle ( $F = 50 \text{ Hz}$ )	0.9	$^\circ\text{C}/\text{W}$



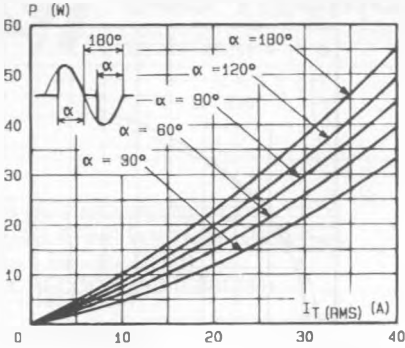


Fig.1 - Maximum mean power dissipation versus RMS on-state current.

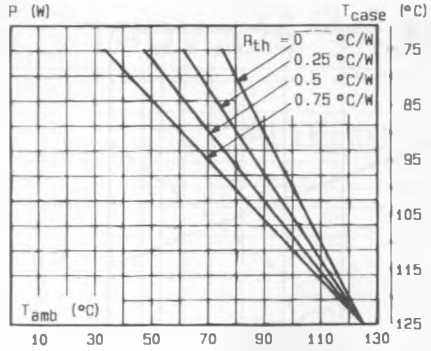


Fig.2 - Correlation between maximum mean power dissipation and maximum allowable temperatures ( $T_{amb}$  and  $T_{case}$ ) for different thermal resistances heatsink + contact.

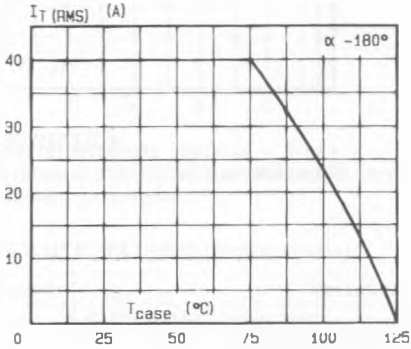


Fig.3 - RMS on-state current versus case temperature.

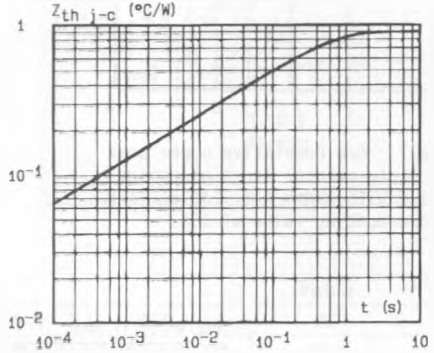


Fig.4 - Thermal transient impedance junction to case versus pulse duration.

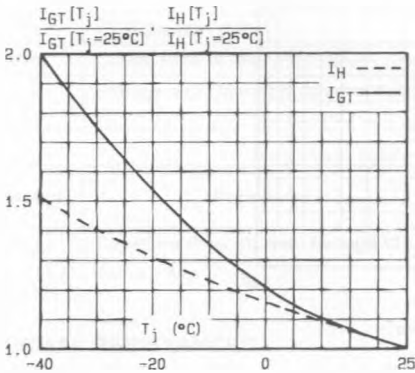


Fig.5 - Relative variation of gate trigger current and holding current versus junction temperature.

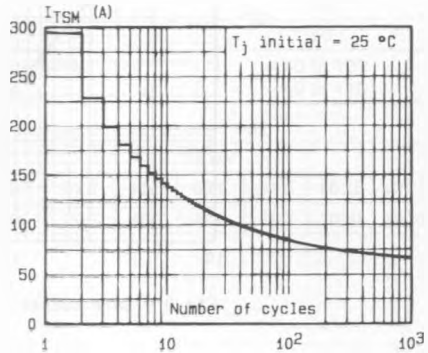


Fig.6 - Non repetitive surge peak on-state current versus number of cycles.

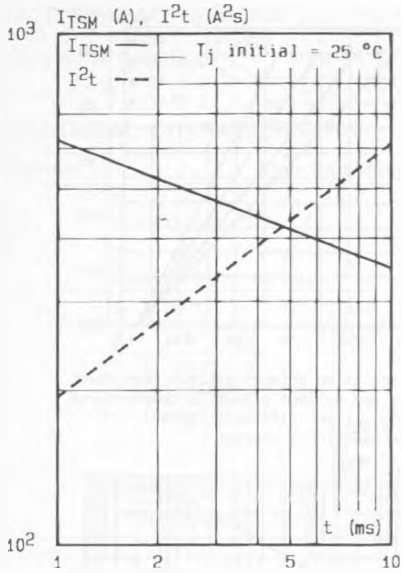


Fig.7 - Non repetitive surge peak on-state current for a sinusoidal pulse with width :  $t \leq 10$  ms, and corresponding value of  $I^2t$ .

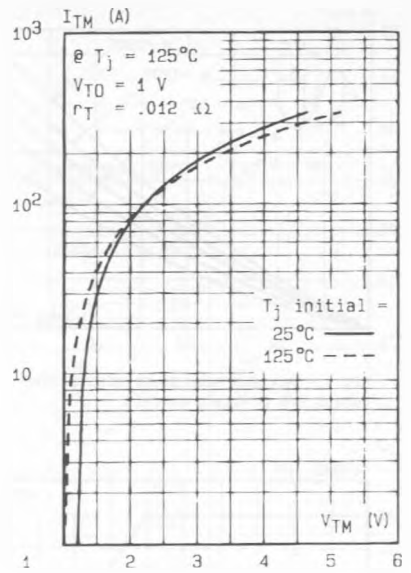


Fig.8 - On-state characteristics (maximum values).

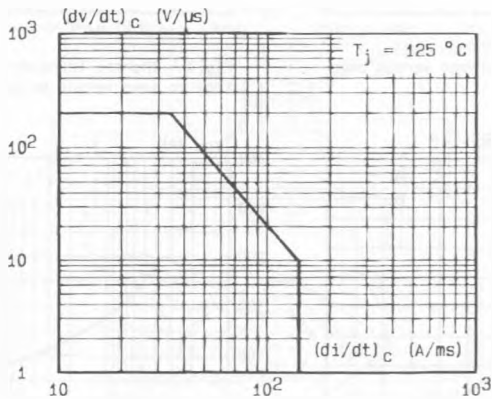


Fig.9 - Safe operating area.