THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth (j-c) DC	Junction to case for DC	1.2	°C/W
Rth (j-c) AC	Junction to case for 360° conduction angle (F= 50 Hz)	0.9	°C/W

GATE CHARACTERISTICS (maximum values)

$P_{G\ (AV)}$ = 1W P_{GM} = 40W (tp = 20 µs) I_{GM} = 8A (tp = 20 µs) V_{GM} = 16V (tp = 20 µs).

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions		Quadrant		Suffix		Unit
					A	B	
I_{GT}	V_D=12V (DC) R_L=33Ω	Tj=25°C	I-II-III	MAX	100	50	mA
			IV	MAX	150	100	
V_{GT}	V_D=12V (DC) R_L=33Ω	Tj=25°C	I-II-III-IV	MAX	1.5		V
V_{GD}	V_D=V_{DRM} R_L=3.3kΩ	Tj=125°C	I-II-III-IV	MIN	0.2		V
tgt	V_D=V_{DRM} I_G = 500mA dI_G/dt = 3A/µs	Tj=25°C	I-II-III-IV	TYP	2.5		µs
I_L	I_G=1.2 I_{GT}	Tj=25°C	I-III-IV	TYP	70	60	mA
			II		200	180	
I_H *	I_T= 500mA gate open	Tj=25°C		MAX	100	80	mA
V_{TM} *	I_{TM}= 60A tp= 380µs	Tj=25°C		MAX	1.8		V
I_{DRM} I_{RRM}	V_{DRM} Rated V_{RRM} Rated	Tj=25°C		MAX	0.01		mA
		Tj=125°C		MAX	6		
dV/dt *	Linear slope up to V_D=67%V_{DRM} gate open	Tj=125°C		MIN	250		V/µs
(dV/dt)c *	(dI/dt)c = 18A/ms	Tj=125°C		MIN	10		V/µs

* For either polarity of electrode A_2 voltage with reference to electrode A_1.

ORDERING INFORMATION

Package	$I_{T(RMS)}$	V_{DRM} / V_{RRM}	Sensitivity Specification	
	A	V	A	B
BTA (Insulated)	40	400	X	X
		600	X	X
		700	X	X
		800	X	X

Fig.1 : Maximum RMS power dissipation versus RMS on-state current (F=50Hz).
(Curves are cut off by (dI/dt)c limitation)

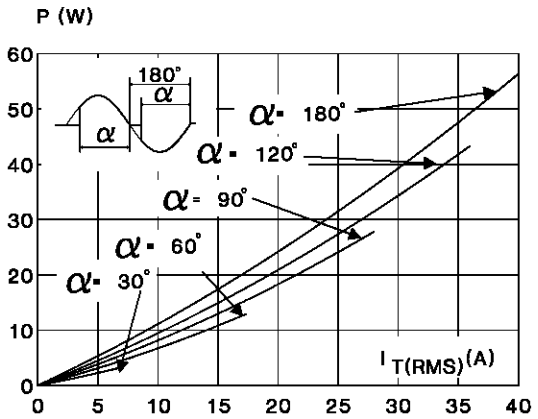


Fig.2 : Correlation between maximum RMS power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact.

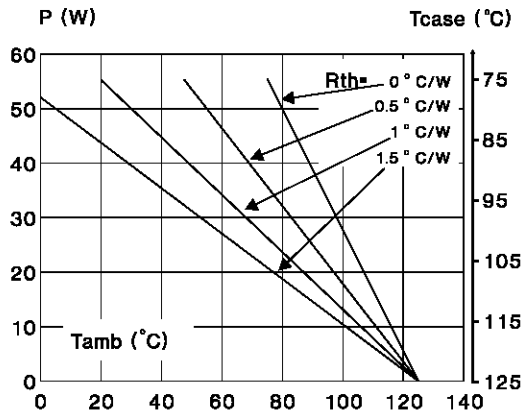


Fig.3 : RMS on-state current versus case temperature.

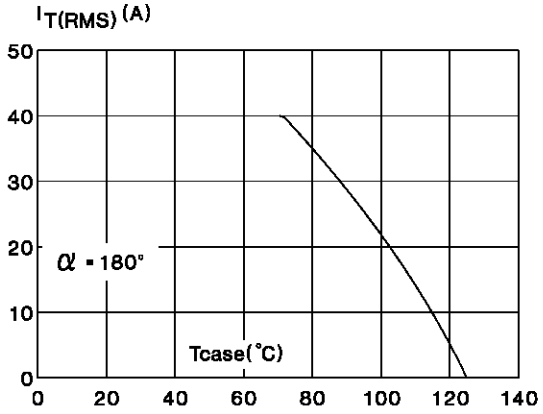


Fig.4 : relative variation of thermal impedance junction to case versus pulse duration.

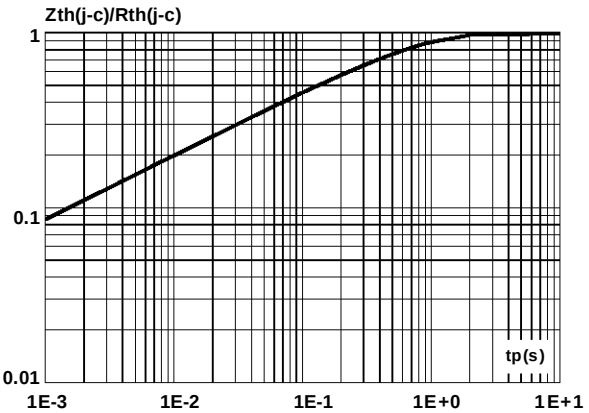


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

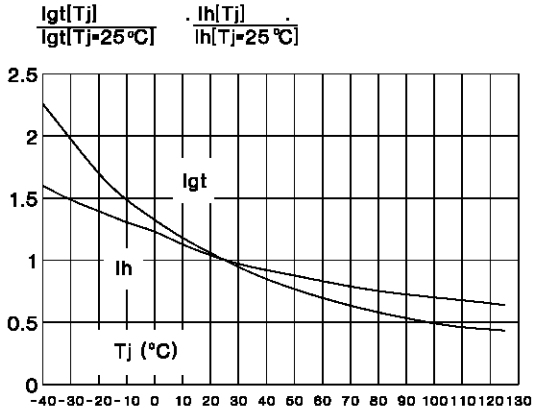


Fig.6 : Non Repetitive surge peak on-state current versus number of cycles.

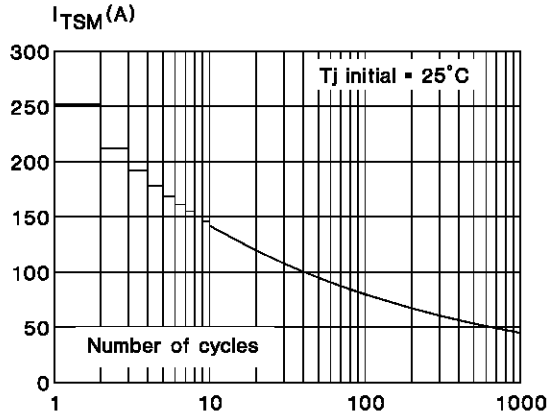


Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : t ≤ 10ms, and corresponding value of I^2t.

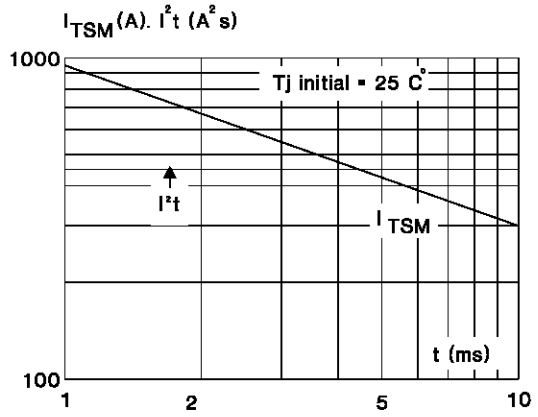
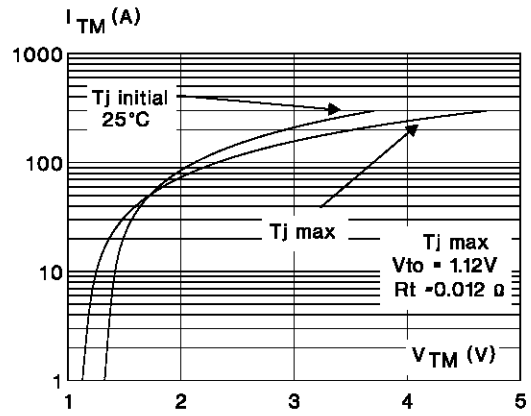
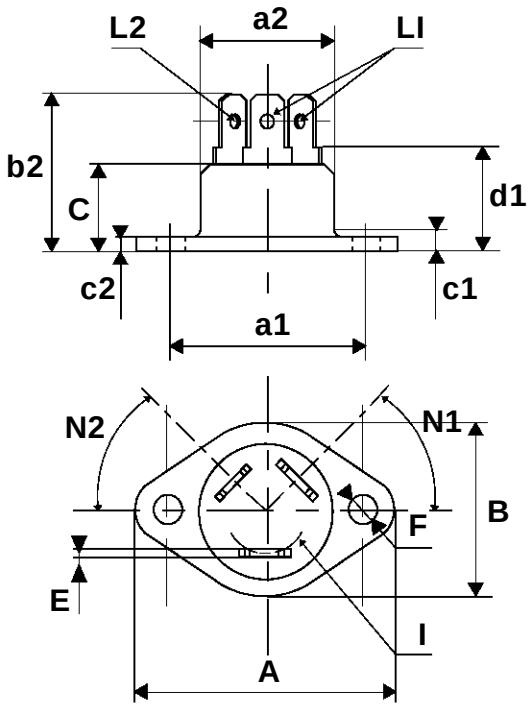


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

RD91 Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		40.00		1.575
a1	29.90	30.30	1.177	1.193
a2		22.00		0.867
B		27.00		1.063
b1	13.50	16.50	0.531	0.650
b2		24.00		0.945
C		14.00		0.551
c1		3.50		0.138
c2	1.95	3.00	0.077	0.118
E	0.70	0.90	0.027	0.035
F	4.00	4.50	0.157	0.177
I	11.20	13.60	0.441	0.535
L1	3.10	3.50	0.122	0.138
L2	1.70	1.90	0.067	0.075
N1	33°	43°	33°	43°
N2	28°	38°	28°	38°

Marking : type number
Weight : 20 g