THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction to ambient *	60	°C/W
Rth(j-t)	Junction to tab for DC	25	°C/W

* : With 5cm^2 copper (e=35µm) surface under tab.

GATE CHARACTERISTICS (maximum values)

$P_{G\ (AV)}$= 0.2 W P_{GM} = 3 W (tp = 20 µs) I_{GM} = 1.2 A (tp = 20 µs)

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions			Sensitivity			Unit
				02	03	05	
I_{GT}	V_D=12V (DC) R_L=140Ω	Tj= 25°C	MIN		20	20	µA
			MAX	200	200	50	
V_{GT}	V_D=12V (DC) R_L=140Ω	Tj= 25°C	MAX	0.8			V
V_{GD}	V_D=V_{DRM} R_L=3.3kΩ R_{GK} = 1 KΩ	Tj= 125°C	MIN	0.1			V
V_{RGM}	I_{RG} =10µA	Tj= 25°C	MIN	8			V
tgd	V_D=V_{DRM} I_{TM}= 3 x $I_{T(AV)}$ dI_G/dt = 0.1A/µs I_G = 10mA	Tj= 25°C	TYP	0.5			µs
I_H	I_T= 50mA R_{GK} = 1 KΩ	Tj= 25°C	MAX	5			mA
I_L	I_G=1mA R_{GK} = 1 KΩ	Tj= 25°C	MAX	6			mA
V_{TM}	I_{TM}= 2.8A tp= 380µs	Tj= 25°C	MAX	1.5			V
I_{DRM} I_{RRM}	V_D = V_{DRM} R_{GK} = 1 KΩ V_R = V_{RRM}	Tj= 25°C	MAX	5			µA
		Tj= 110°C	MAX	200			µA
dV/dt	V_D=67%V_{DRM} R_{GK} = 1 KΩ	Tj= 110°C	TYP	15	20	15	V/µs
tq	I_{TM}= 3 x $I_{T(AV)}$ V_R=35V dI/dt=10A/µs tp=100µs dV/dt=2V/µs V_D= 67%V_{DRM} R_{GK} = 1 KΩ	Tj= 110°C	MAX	100			µs

ORDERING INFORMATION

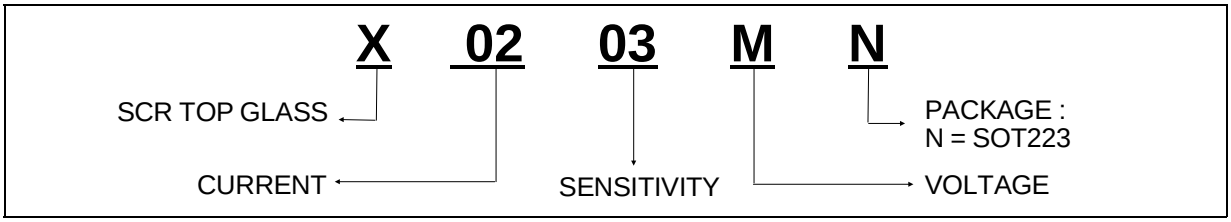


Fig.1 : Maximum average power dissipation versus average on-state current.

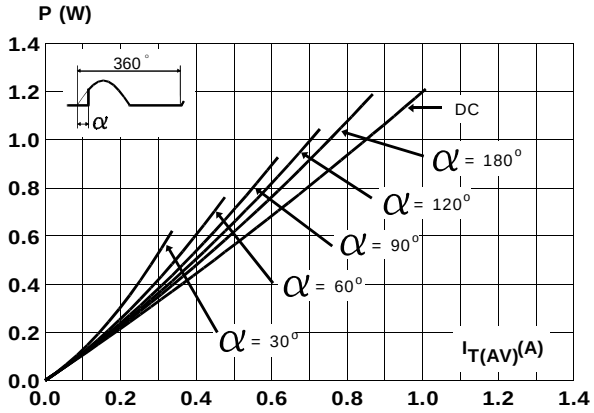


Fig.2 : Correlation between maximum average power dissipation and maximum allowable temperature (Tamb and Ttab).

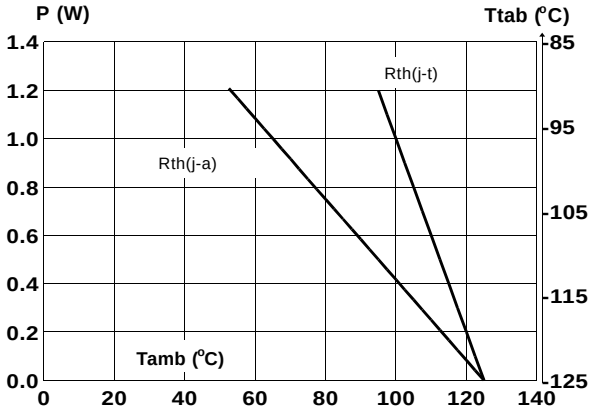


Fig.3 : Average on-state current versus tab temperature.

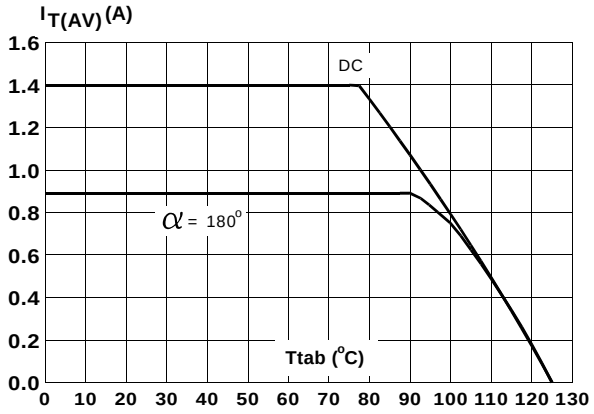


Fig.4 : Relative variation of thermal impedance junction to ambient versus pulse duration.

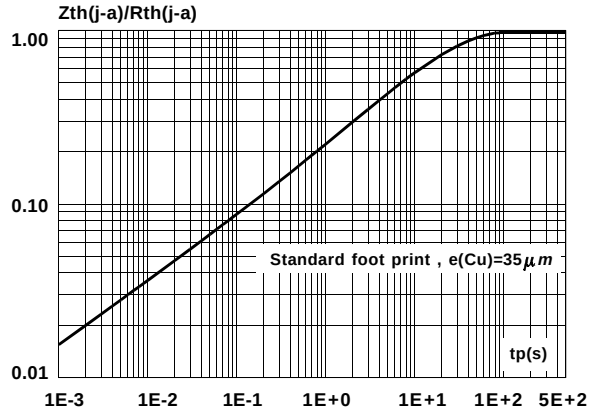


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

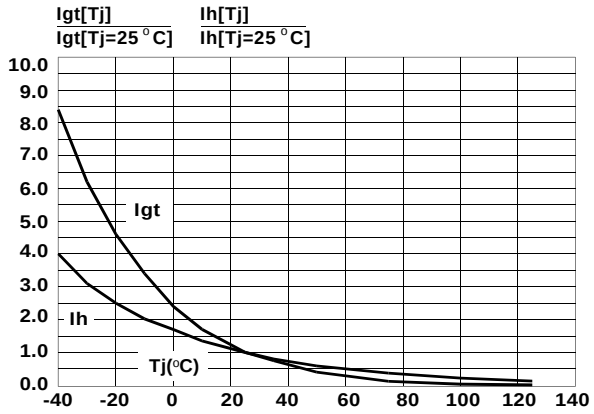


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.

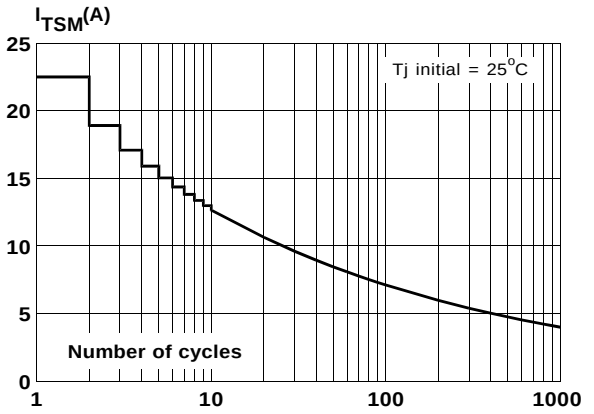


Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : tp ≤ 10ms, and corresponding value of I^2t.

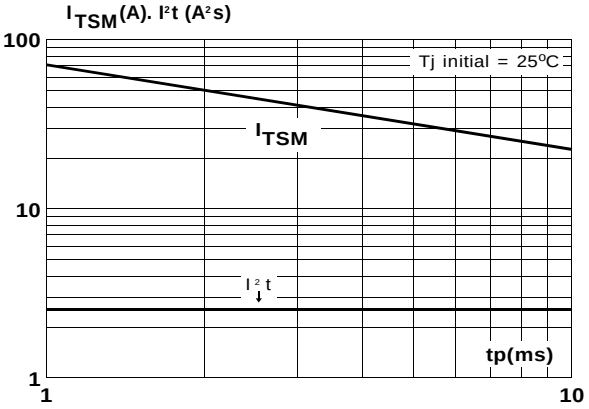
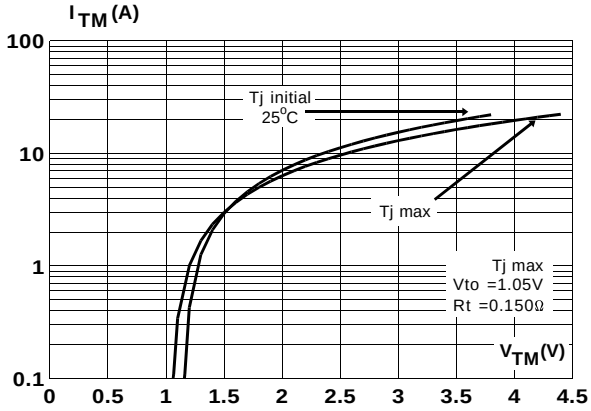
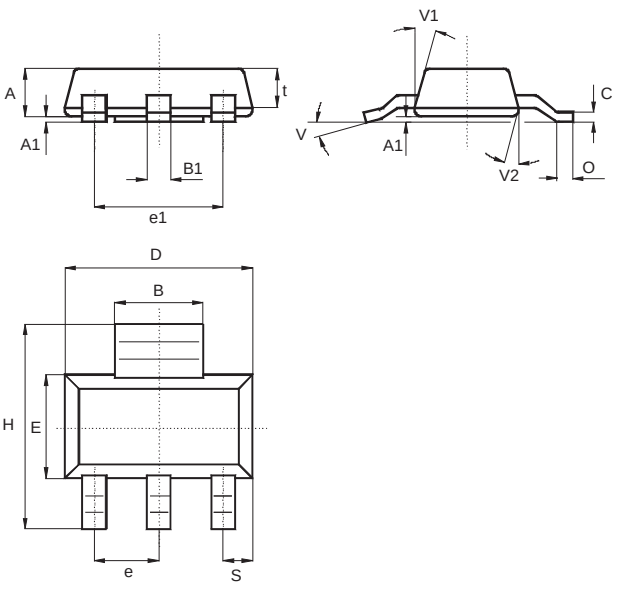


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

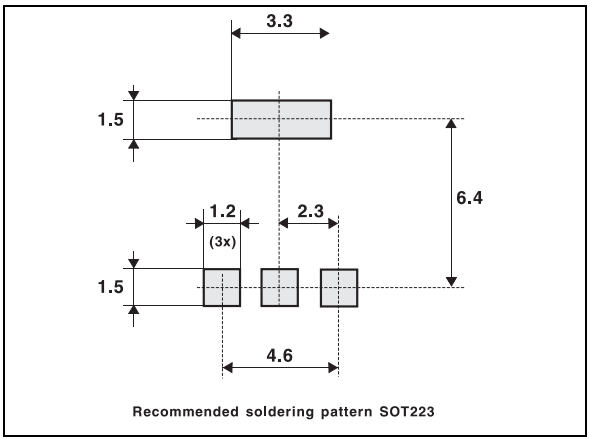
SOT223 (Plastic)



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50		1.70	0.059		0.067
A1	0.02		0.10	0.001		0.004
B	2.95		3.15	0.090		0.124
B1	0.65		0.85	0.026		0.033
C	0.25		0.35	0.010		0.014
D	6.30		6.70	0.248		0.264
e		2.3			0.091	
e1		4.6			0.181	
E	3.30		3.70	0.130		0.146
H	6.70		7.30	0.264		0.287
O	0.63	0.65	0.67	0.025	0.026	0.026
S	0.85		1.05	0.033		0.041
t	1.10		1.30	0.043		0.051
V	10° max					
V1	10° min 16°max					
V2	10° min 16°max					

Weight : 0.11 g

FOOT PRINT



Recommended soldering pattern SOT223

MARKING

Type	Marking
X0202BN	X2B
X0202DN	X2D
X0202MN	X2M
X0202NN	X2N
X0203BN	X3B
X0203DN	X3D
X0203MN	X3M
X0203NN	X3N
X0205BN	X5B
X0205DN	X5D
X0205MN	X5M
X0205NN	X5N