

X04 Series

ELECTRICAL CHARACTERISTICS (T_j = 25°C, unless otherwise specified)

Symbol	Test Conditions		X04xx		Unit		
			02	05			
I _{GT}	V _D = 12 V R _L = 140 Ω		MIN.	–	20	μA	
			MAX.	200	50		
V _{GT}			MAX.	0.8		V	
V _{GD}	V _D = V _{DRM} R _L = 3.3 kΩ R _{GK} = 1 kΩ	T _j = 125°C	MIN.	0.1		V	
V _{RG}	I _{RG} = 10 μA		MIN.	8		V	
I _H	I _T = 50mA R _{GK} = 1kΩ		MAX.	5		mA	
I _L	I _G = 1mA R _{GK} = 1kΩ		MIN.	6		mA	
dV/dt	V _D = 67% V _{DRM} R _{GK} = 1kΩ	T _j = 110°C	MIN.	10	15	V/μs	
V _{TM}	I _{TM} = 8 A tp = 380 μs		T _j = 25°C	MAX.	1.8		V
V _{t0}	Threshold voltage		T _j = 125°C	MAX.	0.95		V
R _d	Dynamic resistance		T _j = 125°C	MAX.	100		mΩ
I _{DRM} I _{RDM}	V _{DRM} = V _{RDM} R _{GK} = 1 kΩ		T _j = 25°C	MAX.	5		μA
			T _j = 125°C		1		mA

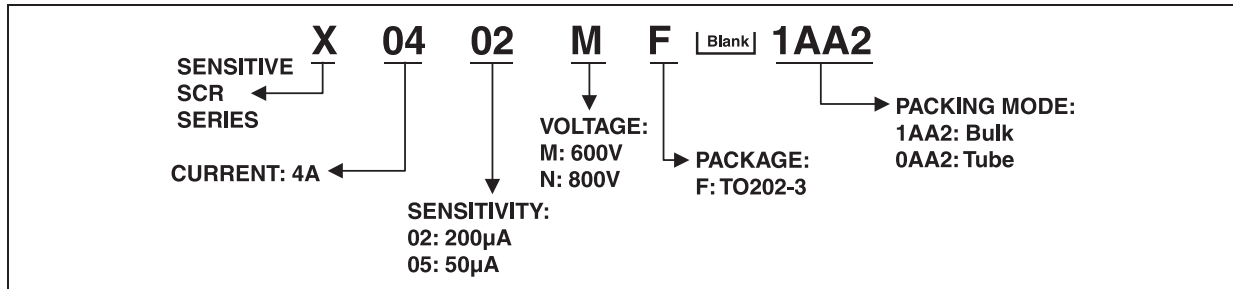
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-l)}	Junction to leads (DC)	15	°C/W
R _{th(j-a)}	Junction to ambient (DC)	100	

PRODUCT SELECTOR

Part Number	Voltage		Sensitivity	Package
	600 V	800 V		
X0402MF	X		200 μA	TO202-3
X0402NF		X	200 μA	TO202-3
X0405MF	X		50 μA	TO202-3
X0405NF		X	50 μA	TO202-3

ORDERING INFORMATION



OTHER INFORMATION

Part Number	Marking	Weight	Base Quantity	Packing mode
X04xxyF 1AA2	X04xxyF	0.8 g	250	Bulk
X04xxyF 0AA2	X04xxyF	0.8 g	50	Tube

Note: xx = sensitivity, y = voltage

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

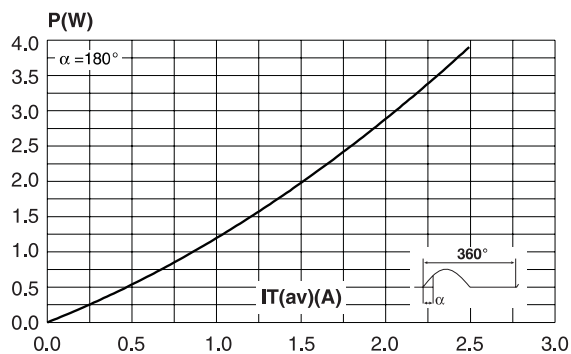


Fig. 2-1: Average and D.C. on-state current versus lead temperature.

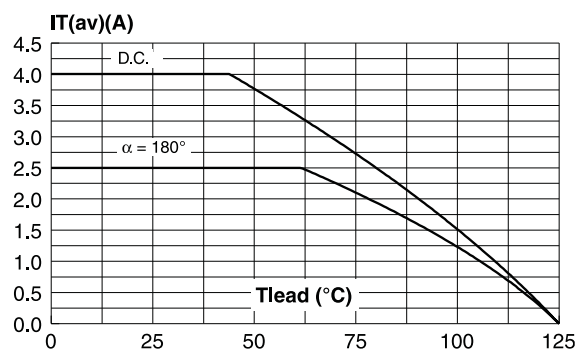


Fig. 2-2: Average and D.C. on-state current versus ambient temperature (device mounted on FR4 with recommended pad layout).

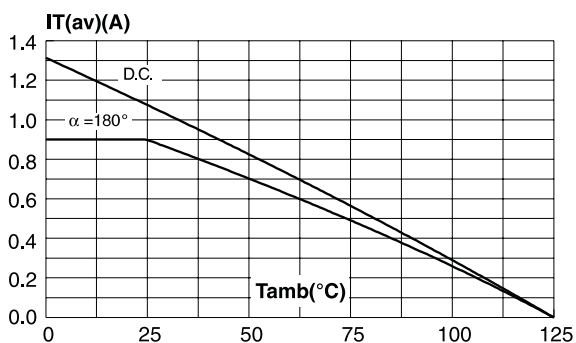


Fig. 3: Relative variation of thermal impedance junction to ambient versus pulse duration.

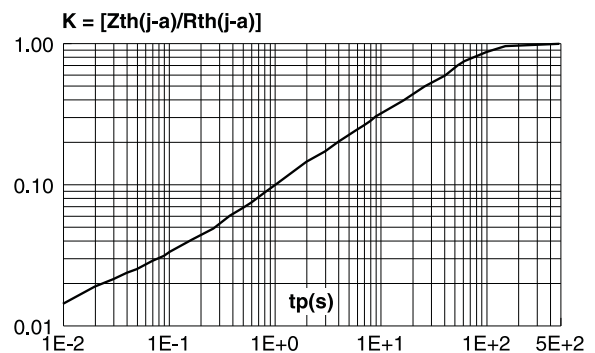


Fig. 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

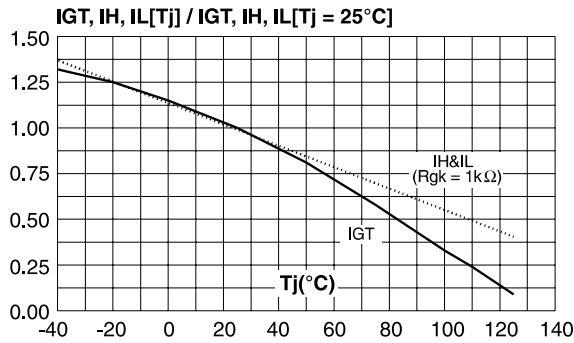


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).

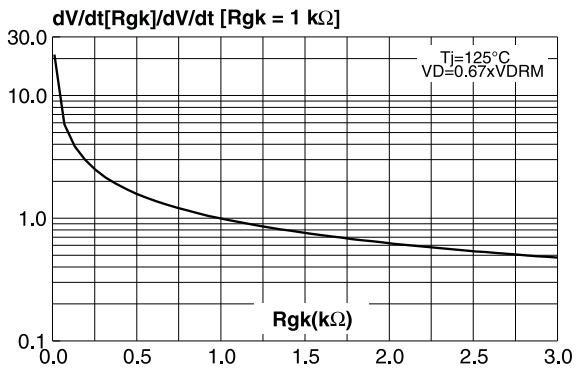


Fig. 8: Surge peak on-state current versus number of cycles.

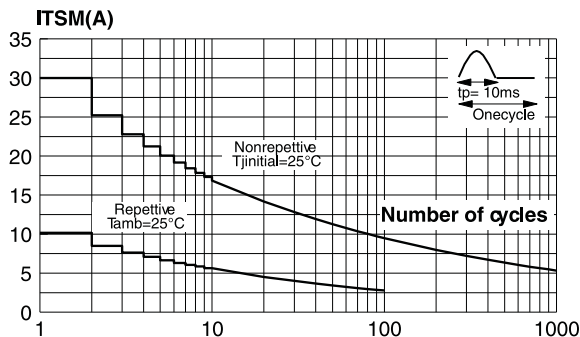


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

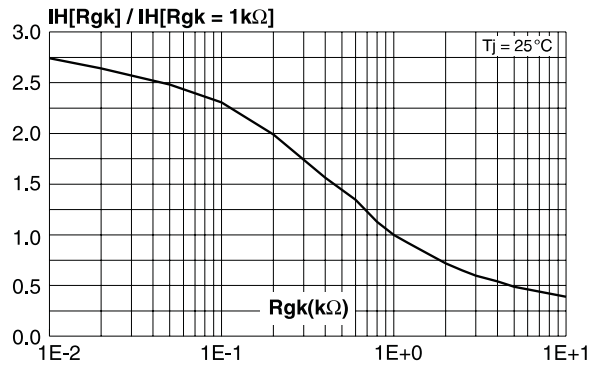


Fig. 7: Relative variation of dV/dt immunity versus gate-cathode capacitance (typical values).

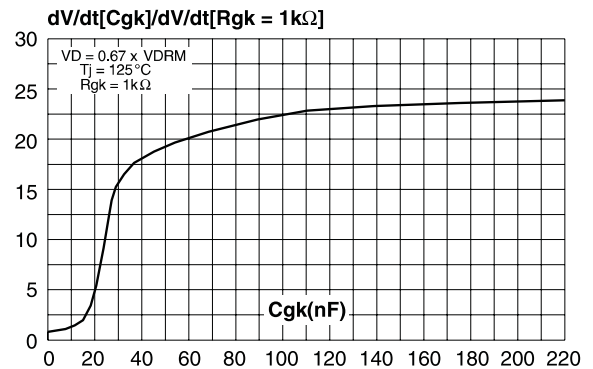


Fig. 9: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms, and corresponding value of I^2t .

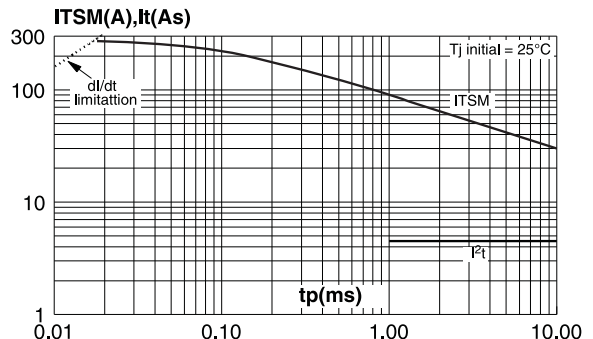
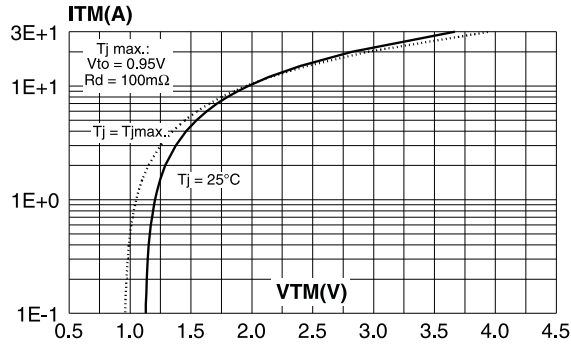
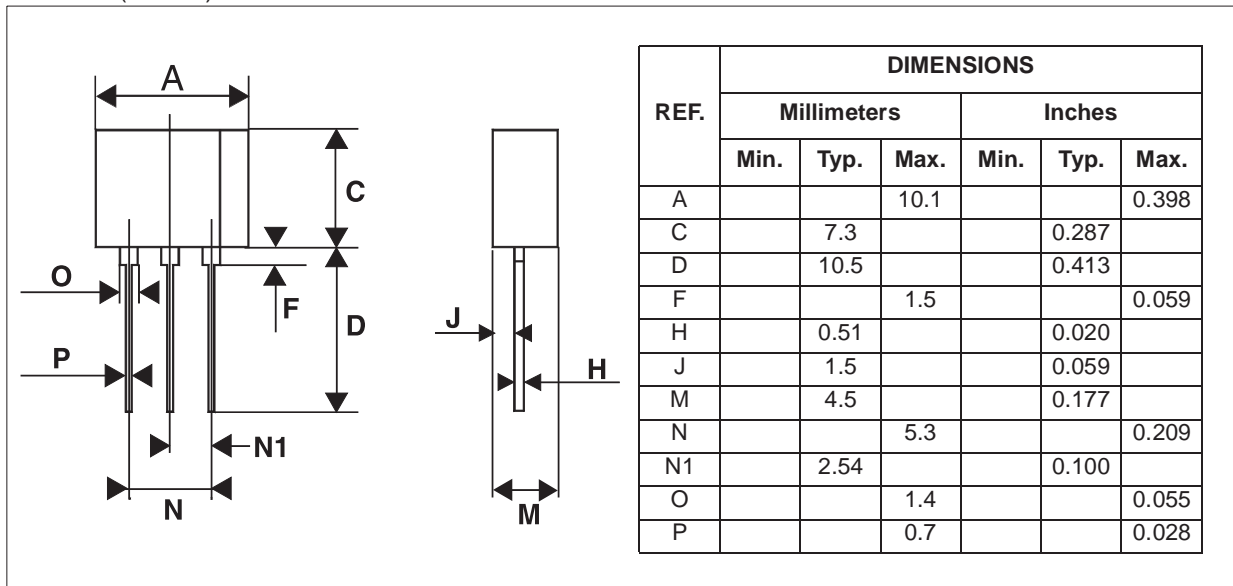


Fig. 10: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

TO202-3 (Plastic)



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