New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

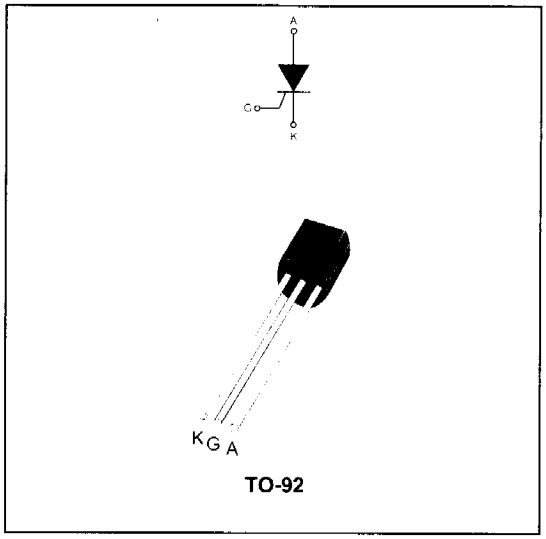
TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

X00602MA

SENSITIVE — 0.8A SCRs

MAIN FEATURES:

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	200	µA



TO-92

DESCRIPTION

Thanks to highly sensitive triggering levels, the X006 SCR series is suitable for all applications where the available gate current is limited, such as ground fault circuit interrupters, overvoltage crowbar protection in low power supplies, capacitive ignition circuits, ...

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter			Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)		Tl = 85°C	0.8	A
$I_{T(AV)}$	Average on-state current (180° conduction angle)		Tl = 85°C	0.5	A
I_{TSM}	Non repetitive surge peak on-state current	tp = 8.3 ms	Tj = 25°C	10	A
		tp = 10 ms		9	
I^2t	I^2t Value for fusing	tp = 10ms	Tj = 25°C	0.25	A^2s
dI/dt	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, tr ≤ 100 ns	F = 60 Hz	Tj = 125°C	50	A/µs
I_{GM}	Peak gate current	tp = 20 µs	Tj = 125°C	1	A
$P_{G(AV)}$	Average gate power dissipation		Tj = 125°C	0.1	W
T_{stg} Tj	Storage junction temperature range Operating junction temperature range			- 40 to + 125 - 40 to + 125	°C

X00602MA

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

Symbol	Test Conditions			X00602MA	Unit
I_{GT}	V_D = 12 V R_L = 140 Ω		MIN.	15	µA
			MAX.	200	µA
V_{GT}			MAX.	0.8	V
V_{GD}	$V_D = V_{DRM}$ R_L = 3.3 kΩ R_{GK} = 1 kΩ	Tj = 125°C	MIN.	0.2	V
V_{RG}	I_{RG} = 10 µA		MIN.	5	V
I_H	I_T = 50 mA R_{GK} = 1 kΩ		MAX.	5	mA
I_L	I_G = 1 mA R_{GK} = 1 kΩ		MAX.	6	mA
dV/dt	V_D = 67 % V_{DRM} R_{GK} = 1 kΩ	Tj = 125°C	MIN.	25	V/µs
V_{TM}	I_{TM} = 1 A tp = 380 µs	Tj = 25°C	MAX.	1.35	V
V_{t0}	Threshold voltage	Tj = 125°C	MAX.	0.85	V
R_d	Dynamic resistance	Tj = 125°C	MAX.	245	mΩ
I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM}$ R_{GK} = 1 kΩ	Tj = 25°C	MAX.	1	µA
		Tj = 125°C		100	

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-l)}$	Junction to lead (DC)	70	°C/W
$R_{th(j-a)}$	Junction to ambient (DC)	150	°C/W

PRODUCT SELECTOR

Part Number	Voltage	Sensitivity	Package
X00602MA	600 V	200 µA	TO-92