

X00602MA

SENSITIVE

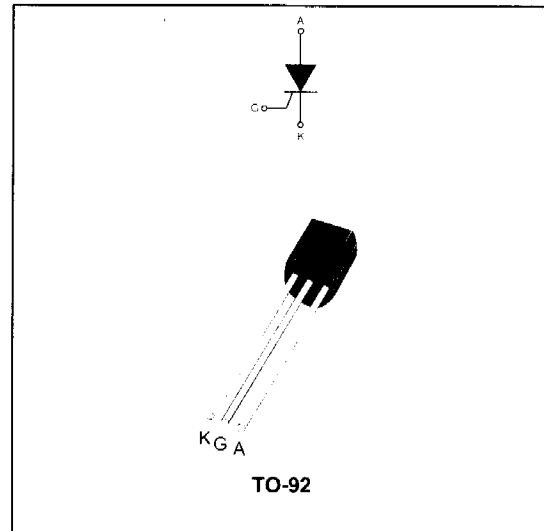
0.8A SCRs

MAIN FEATURES:

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

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

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X00602MA**ELECTRICAL CHARACTERISTICS** ($T_j = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Test Conditions		X00602MA	Unit
I_{GT}	$V_D = 12\text{ V}$ $R_L = 140\ \Omega$	MIN.	15	μA
		MAX.	200	μA
V_{GT}		MAX.	0.8	V
V_{GD}	$V_D = V_{DRM}$ $R_L = 3.3\ \text{k}\Omega$ $R_{GK} = 1\ \text{k}\Omega$ $T_j = 125^\circ\text{C}$	MIN.	0.2	V
V_{RG}	$I_{RG} = 10\ \mu\text{A}$	MIN.	5	V
I_H	$I_T = 50\ \text{mA}$ $R_{GK} = 1\ \text{k}\Omega$	MAX.	5	mA
I_L	$I_G = 1\ \text{mA}$ $R_{GK} = 1\ \text{k}\Omega$	MAX.	6	mA
dV/dt	$V_D = 67\% V_{DRM}$ $R_{GK} = 1\ \text{k}\Omega$ $T_j = 125^\circ\text{C}$	MIN.	25	V/ μs
V_{TM}	$I_{TM} = 1\ \text{A}$ $t_p = 380\ \mu\text{s}$ $T_j = 25^\circ\text{C}$	MAX.	1.35	V
V_{T0}	Threshold voltage $T_j = 125^\circ\text{C}$	MAX.	0.85	V
R_d	Dynamic resistance $T_j = 125^\circ\text{C}$	MAX.	245	$\text{m}\Omega$
I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM}$ $R_{GK} = 1\ \text{k}\Omega$	$T_j = 25^\circ\text{C}$	MAX. 1	μA
		$T_j = 125^\circ\text{C}$	100	

THERMAL RESISTANCES

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

PRODUCT SELECTOR

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