

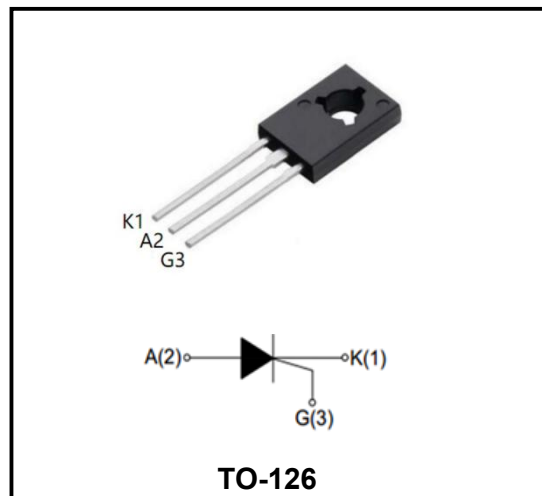
4.0A Sensitive Gate SCRs

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	4.0	A
$V_{DRM} V_{RRM}$	600/800	V
I_{GT}	200	uA

Features

With high ability to withstand the shock loading of large current, Provide high dv/dt rate with strong resistance to electromagnetic interference.



Application

Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on

Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	600/800	V
Repetitive peak reverse voltage	V_{RRM}	600/800	V
RMS on-state current	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	30	A
I^2t value for fusing (tp=10ms)	I^2t	4.5	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di_T/dt	50	A/us
Peak gate current	I_{GM}	1.2	A
Average gate power dissipation	$P_G (AV)$	0.2	W
Junction Temperature	T_J	-40~+110	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

Electrical characteristics (TA=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Gate trigger current	I_{GT}	$V_D=12V, R_L=140\Omega$, Fig. 6	10	-	200	μA
Gate trigger voltage	V_{GT}	$V_D=12V, R_L=140\Omega, T_j=25^\circ C$	-	0.65	0.8	V
Non-triggering gate voltage	V_{GD}	$V_D=V_{DRM}, R_{GK}=1k\Omega$, $R_L=3.3k\Omega, T_j=110^\circ C$	0.2	-	-	V
Holding current	I_H	$I_T=50mA, R_{GK}=1k\Omega$, $T_j=25^\circ C$, Fig. 6	-	-	5	mA
Latching current	I_L	$I_G=1mA, R_{GK}=1k\Omega$, $T_j=25^\circ C$, Fig. 6	-	-	6	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D=2/3V_{DRM}$, $R_{GK}=1k\Omega, T_j=110^\circ C$	10	-	-	V/ μs

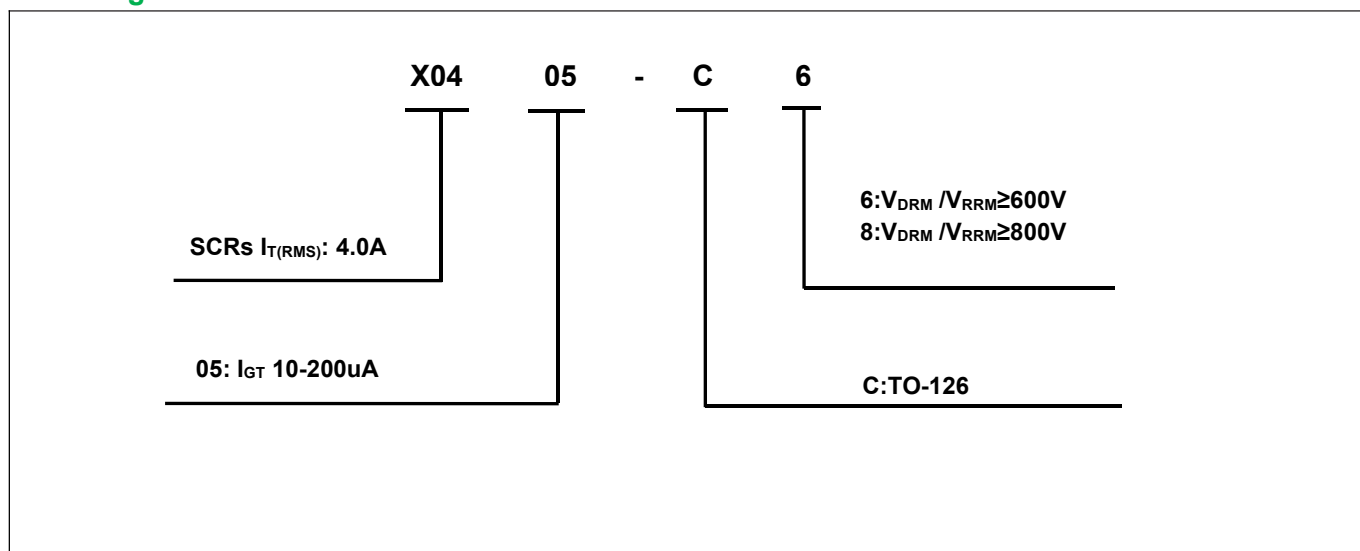
STATIC CHARACTERISTICS

On-state Voltage	V_{TM}	I _{TM} =8A, tp=380μs, Fig.4		-	-	1.55	V
Repetitive Peak Off-State Current	I_{DRM}	V _D =V _{DRM} = V _{RRM}	T _j =25℃	-	-	5	μA
Repetitive Peak Reverse Current	I_{RRM}		T _j =110℃	-	-	150	μA

THERMAL RESISTANCES

Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	7.2	$^\circ C/W$
	$R_{th(j-a)}$	Junction to ambient	TYP.	100	$^\circ C/W$

Ordering Information



Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on state current (full cycle)

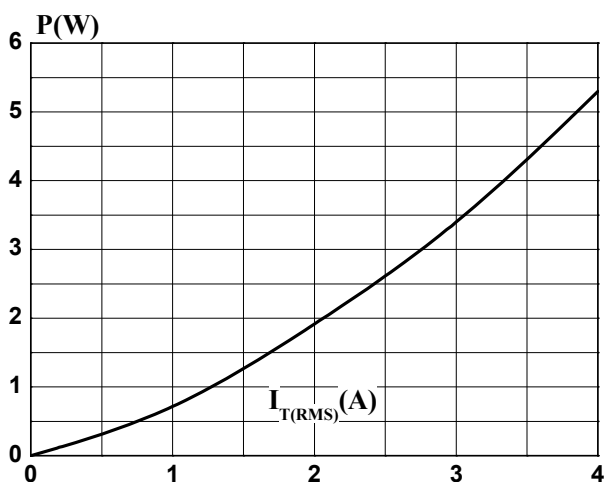


FIG.2: RMS on-state current versus case temperature (full cycle)

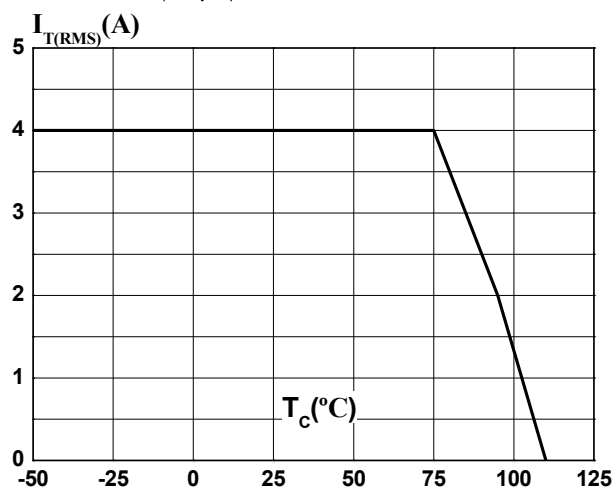


FIG.3: Surge peak on-state current versus number of cycles

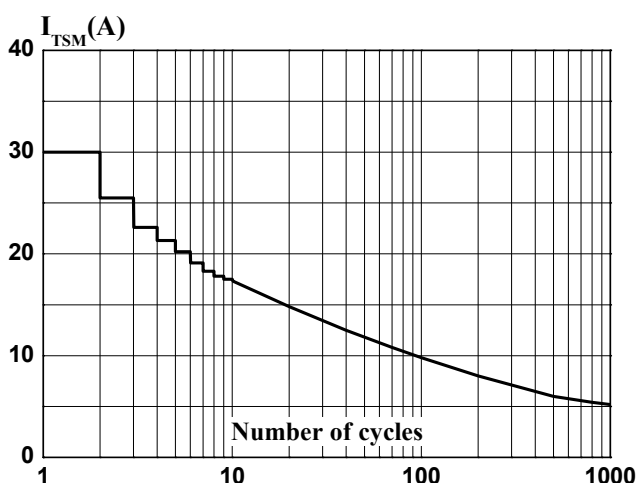


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$

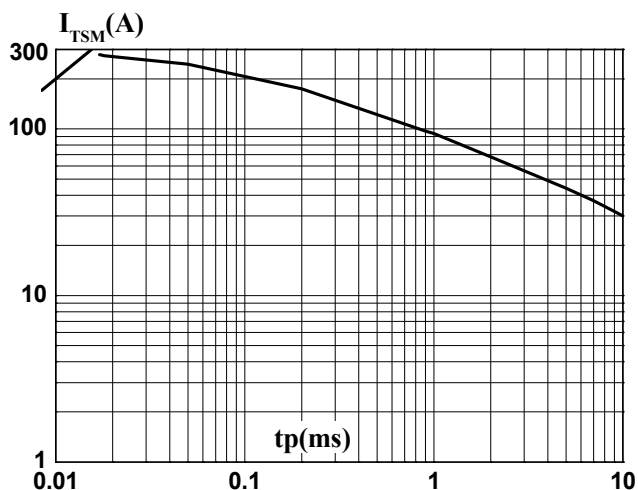


FIG.4: On-state characteristics (maximum values)

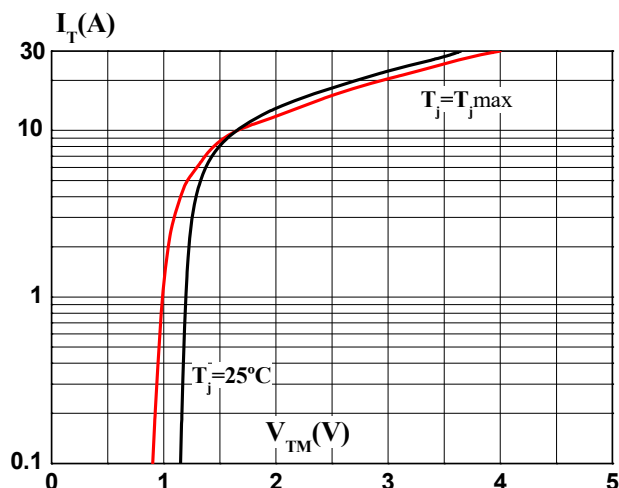
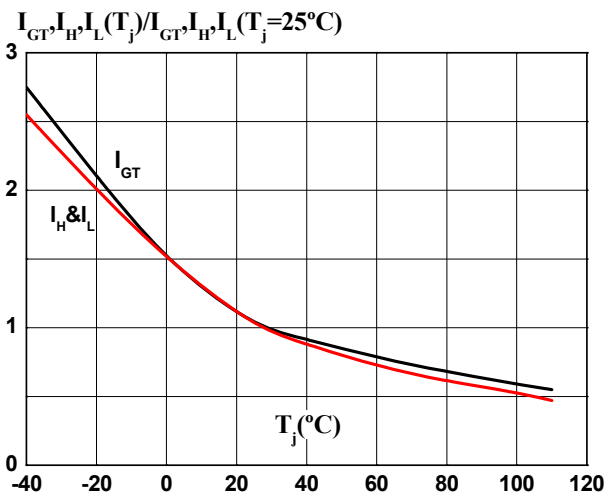


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering information

Package	Packing Description	Base Quantity
TO-126	Bulk	500pcs/Bag

Package Dimensions

TO-126

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.80	0.094	0.110
A1	1.00	1.40	0.039	0.055
b	0.66	0.86	0.026	0.034
b1	1.17	1.37	0.046	0.054
c	0.40	0.60	0.016	0.024
D	7.30	7.70	0.287	0.303
E	10.60	11.00	0.417	0.433
e	2.25	2.33	0.089	0.092
e1	4.50	4.66	0.177	0.183
L	14.00	15.00	0.551	0.591
L1	1.90	2.50	0.075	0.098
Φ	3.10	3.30	0.122	0.130

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