

2.0A Sensitive Gate SCRs

Product Summary

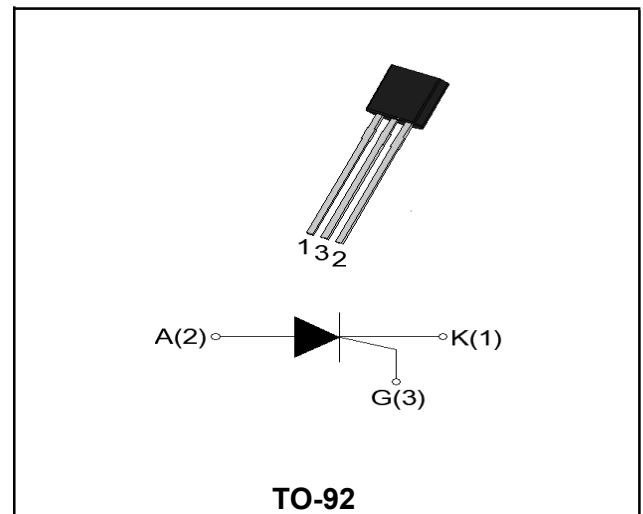
Symbol	Value	Unit
$I_{T(AV)}$	2.0	A
V_{DRM} V_{RRM}	600	V
I_{GT}	200	μA

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	V
Repetitive peak reverse voltage	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	3	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	20	A
I^2t value for fusing (tp=10ms)	I^2t	2	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}	0.2	A
Average gate power dissipation	$P_G (AV)$	0.1	W
Junction Temperature	T_J	-40~+110	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

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

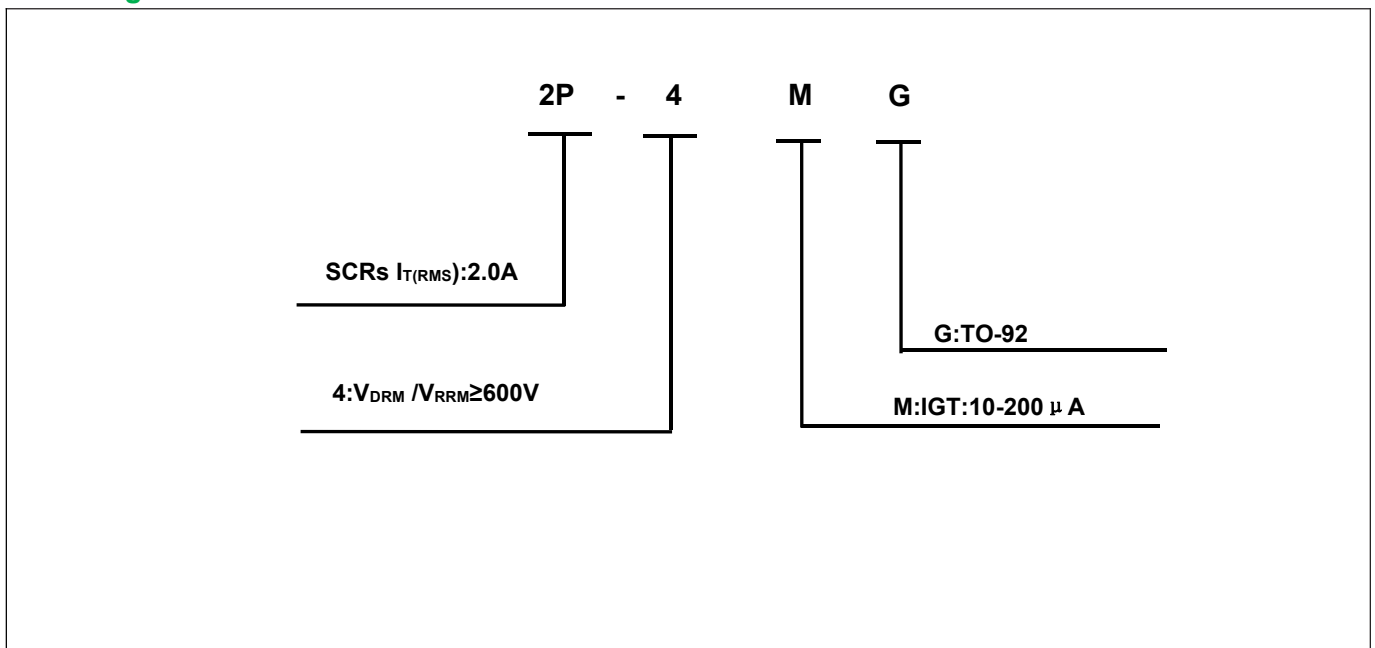
Parameter	Symbol	Test Condition	Value		Unit
			Min	Max	
Gate trigger current	I_{GT}	$V_D=12V$ $I_T=10mA$ $T_J=25^\circ C$	10	200	μA
Gate trigger voltage	V_{GT}		-	0.8	V
Gate non-trigger voltage	V_{GD}	$V_D = 1/2V_{DRM}$ $T_J = 110^\circ C$	0.2	-	V
latching current	I_L	$V_D = 12V$ $I_G=0.5mA$ $R_{GK}=1k\Omega$ $T_J=25^\circ C$	-	3	mA
Holding current	I_H		-	4	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D=2/3V_{DRM}$ Gate Open $T_J=110^\circ C$	10	-	V/us

STATIC CHARACTERISTICS

Forward "on" voltage	V_{TM}	$I_{TM} = 4A$ $t_p=380\mu s$	-	1.55	V	
Repetitive Peak Off-State Current	I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_J=25^\circ C$	-	5	μA
Repetitive Peak Reverse Current	I_{RRM}		$T_J=110^\circ C$	-	0.1	mA

THERMAL RESISTANCES

Thermal resistance	$R_{th(j-c)}$	Junction to case(AC)	TYP.	60	$^\circ C/W$
	$R_{th(j-a)}$	Junction to ambient	TYP.	150	$^\circ C/W$

Ordering Information


Typical Characteristics

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

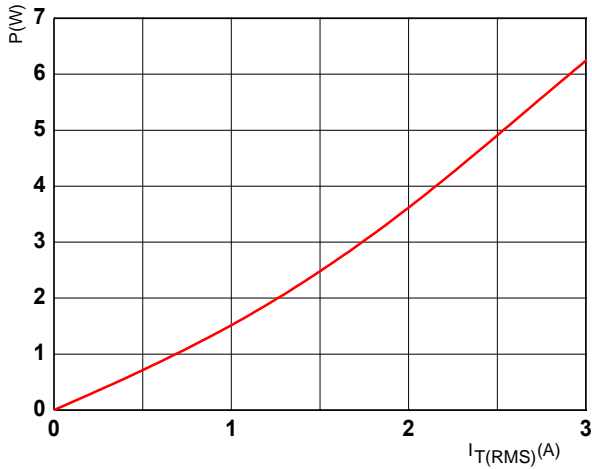


FIG.2: RMS on-state current versus case temperature (full cycle)

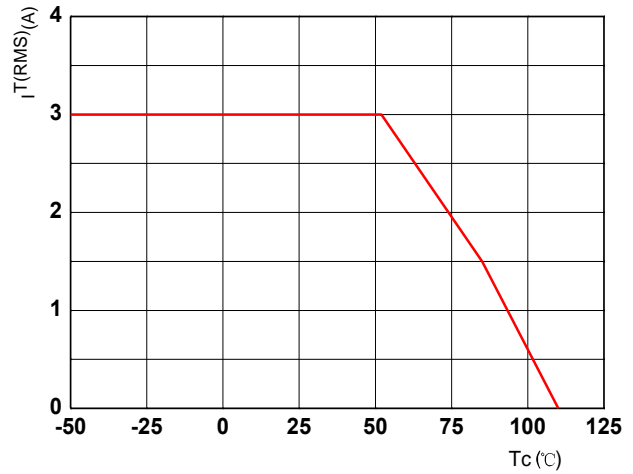


FIG.3: Surge peak on-state current versus number of cycles

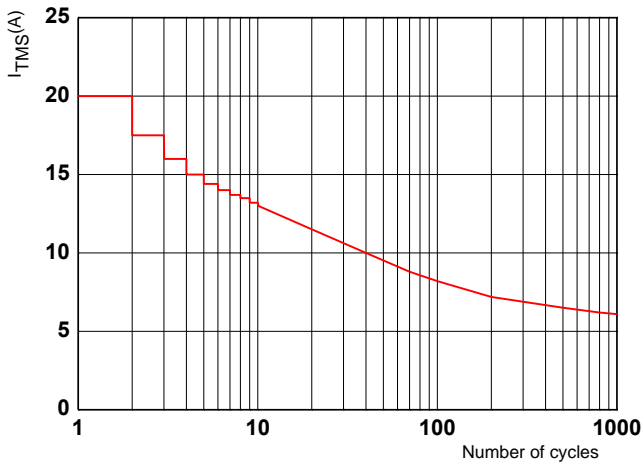


FIG.4: On-state characteristics (maximum values)

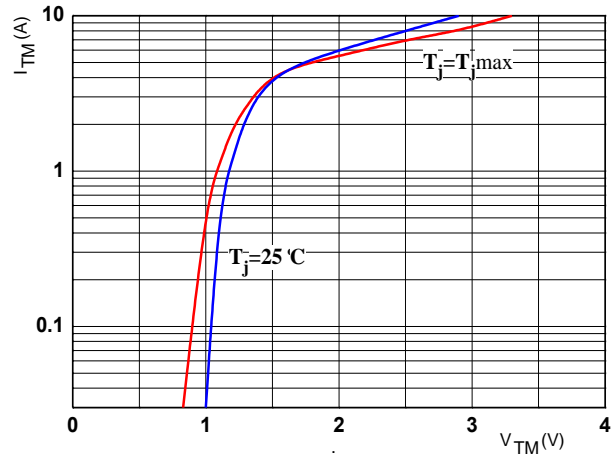


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$

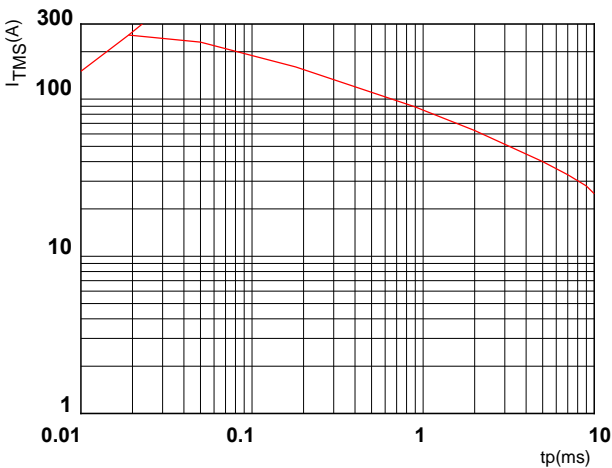
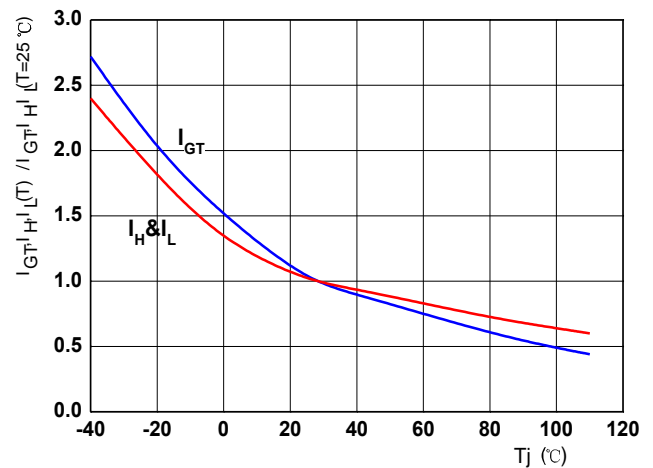


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



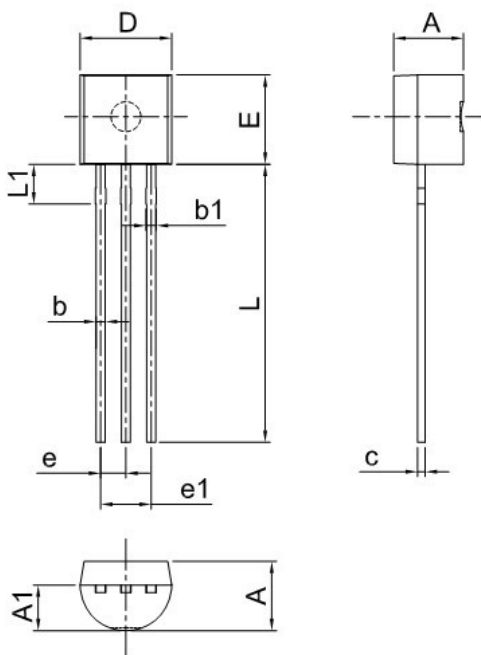
Ordering information

Package	Packing Description	Base Quantity
TO-92	Bulk	1000pcs/Bag
	Tape	2000pcs/Box

Package Dimensions

TO-92

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087



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