

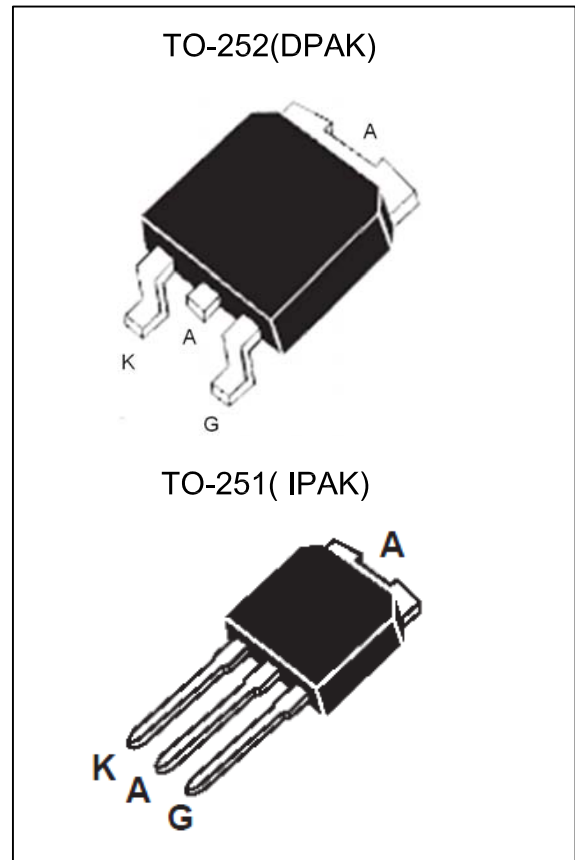
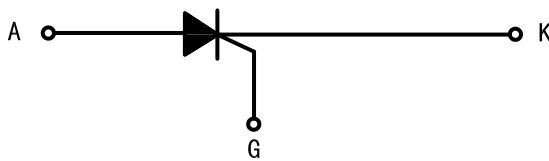
RX040 Series 4A SCRS

DESCRIPTION:

Highly sensitive triggering levels, the RX040 Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	20-80	μA



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40 to +150	$^{\circ}C$
Operating junction temperature range	T_j	-40 to +110	$^{\circ}C$
Repetitive Peak Off-state Voltage	V_{DRM}	600	V
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
$T_j=25^{\circ}C$			
RMS on-state current (180 $^{\circ}$ conduction angle)	$I_{T(RMS)}$	4	A
$T_I=60^{\circ}C$			
Average on-state current (180 $^{\circ}$ conduction angle)	$I_{T(AV)}$	2.5	A
$T_I=60^{\circ}C$			
Non repetitive surge peak on-state current ($T_j=25^{\circ}C$)	I_{TSM}	$t_p=10ms$	30
		$t_p=8.3ms$	33
I^2t Value for fusing	I^2t	4.5	A^2s
$t_p=10ms$			
Critical rate of rise of on-state current	di/dt	50	A/ μs
$I_G=2 \times I_{GT}$, $t_r \leq 100 ns$, $f=50Hz$, $T_j=110^{\circ}C$			
Peak gate current	I_{GM}	1.2	A
$t_p=20\mu s$, $T_j=110^{\circ}C$			
Average gate power dissipation	$P_{G(AV)}$	0.2	W
$T_j=110^{\circ}C$			

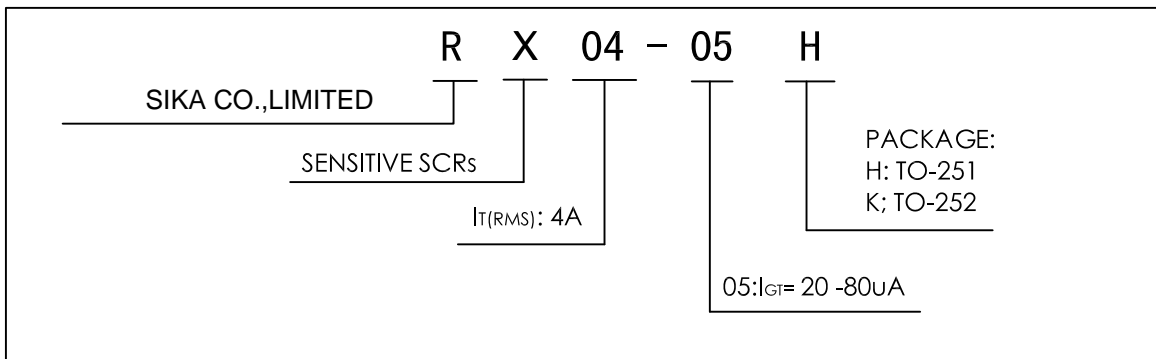
ELECTRICAL CHARACTERISTICS (Tj=25°C unless otherwise specified)

Symbol	Test Condition		Rating	Unit
IGT	V _D =6V R _L =140Ω		20 - 80	μA
V _{GT}		MAX.	0.8	V
V _{GD}	V _D =V _{DRM} R _L =3.3KΩ R _{GK} =1KΩ T _j =110°C	MIN.	0.1	V
I _L	I _G =1mA R _{GK} =1KΩ	MAX.	6	mA
I _H	I _T =50mA R _{GK} =1KΩ	MAX.	5	mA
V _{TM}	I _T =8A t _p =380μs T _j =25°C	MAX.	1.8	V
dV/dt	V _D =67%V _{DRM} R _{GK} =1KΩ T _j =110°C	MIN.	15	V/μs
I _{DRM} I _{RRM}	V _{DRM} = V _{RRM} R _{GK} =1KΩ T _j =25 °C	MAX.	5	μA
	V _{DRM} = V _{RRM} R _{GK} =1KΩ T _j =110 °C		1	
R _{GK}			6 - 45	K Ω

THERMAL RESISTANCES

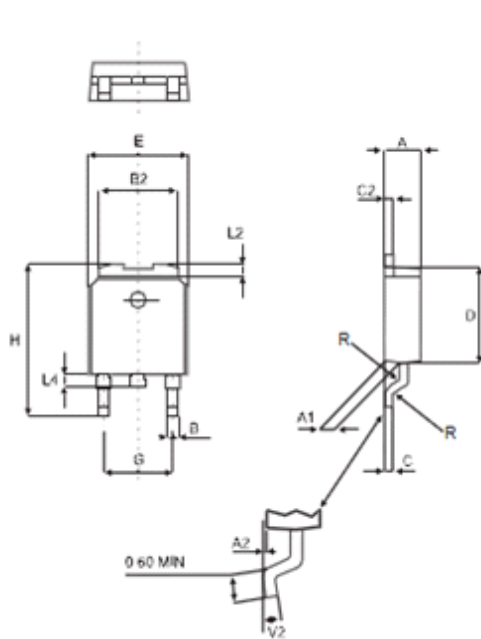
Symbol	Parameter	Value	Unit
R _{th(J-J)}	Junction to Leads (DC)	15	°C/W

ORDERING INFORMATION



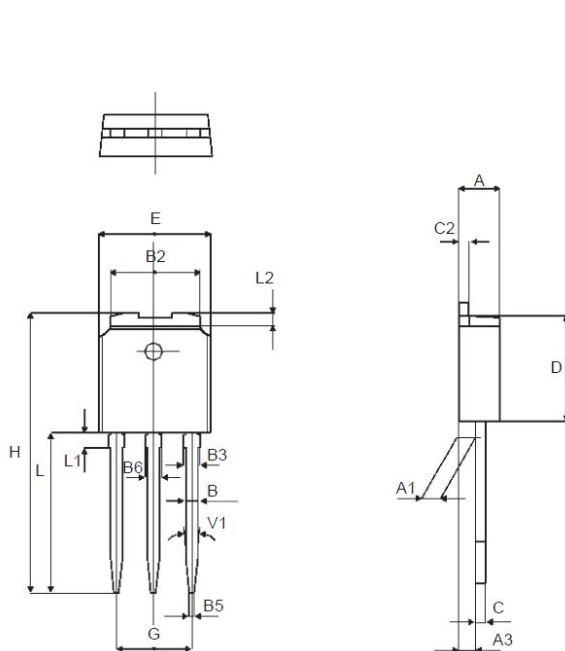
PACKAGE MECHANICAL DATA

TO-252(DPAK)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.40	0.086	0.094
A1	0.90	1.10	0.035	0.043
A2	0.03	0.23	0.001	0.009
B	0.64	0.90	0.025	0.035
B2	5.20	5.40	0.204	0.212
C	0.45	0.60	0.017	0.023
C2	0.48	0.60	0.018	0.023
D	6.00	6.20	0.236	0.244
E	6.40	6.60	0.251	0.259
G	4.40	4.60	0.173	0.181
H	9.35	10.10	0.368	0.397
L2	0.80 typ.		0.031 typ.	
L4	0.60	1.00	0.023	0.039
R	0.2 typ.		0.007 typ.	
V2	0°	8°	0°	8°

TO-251(IPAK)



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.094
A1	0.9		1.1	0.035		0.043
A3	0.7		1.3	0.027		0.051
B	0.64		0.9	0.025		0.035
B2	5.2		5.4	0.204		0.212
B3			0.85			0.033
B5		0.3			0.035	
B6			0.95			0.037
C	0.45		0.6	0.017		0.023
C2	0.48		0.6	0.019		0.023
D	6		6.2	0.236		0.244
E	6.4		6.6	0.252		0.260
G	4.4		4.6	0.173		0.181
H	15.9		16.3	0.626		0.641
L	9		9.4	0.354		0.370
L1	0.8		1.2	0.031		0.047
L2		0.8	1		0.031	0.039
V1		10°			10°	

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

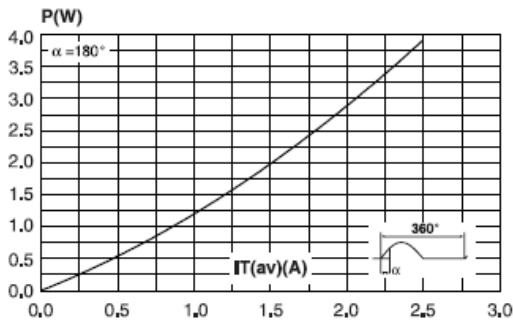


Fig. 2: Average and D.C. on-state current versus lead temperature.

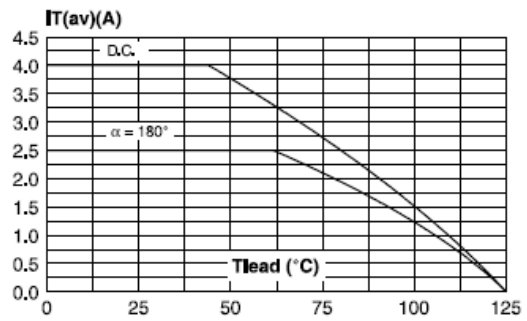


Fig. 3: Surge peak on-state current versus number of cycles.

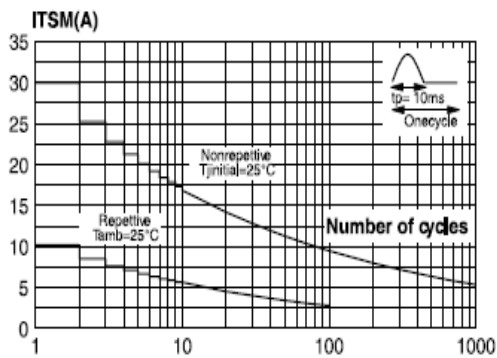


Fig. 4: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms, and corresponding value of I^2t .

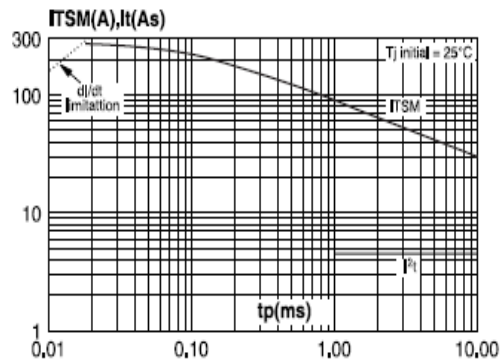


Fig. 5: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

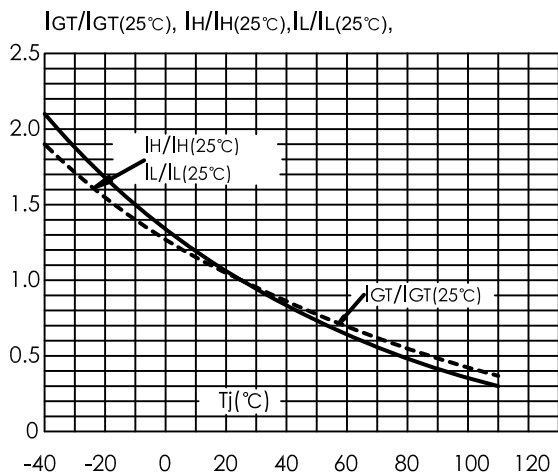


Fig.6: On-state characteristics (maximum values).

