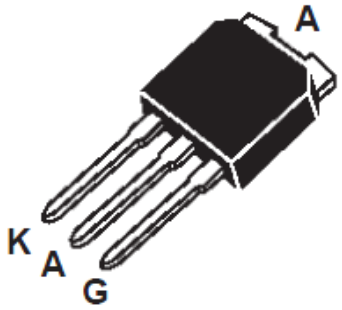
RS-04 Series 4A SCRS

DESCRIPTION:

Highly sensitive triggering levels,the RS-04 Series SCRs is suitable for all applications,where the available gate current is limited,such as capacitive discharge ignitions,motor control in kitchen aids,oervoltage crowbar protection in low power supplies...



TO-251(IPAK)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	30-100	uA

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range Operrating junction temperature range		Tstg Tj	-40 to +150 -40 to +110	℃
Repetitive Peak Off-state Voltage Repetitive Peak Reverse Voltage	Tj=25℃	V_{DRM} V_{RRM}	600 600	V
RMS on-state current (180°conduction angle)	TI=60℃	$I_{T(RMS)}$	4	A
Average on-state current (180°conduction angle)	TI=60℃	$I_{T(AV)}$	2.5	A
Non repetitive surge peak on-state current (Tj=25℃)	tp=10ms tp=8.3ms	I_{TSM}	30 33	A
I^2t Value for fusing	tp=10ms	I^2t	4.5	A^2s
Critical rate of rise of on-state current I_G=2×I_{GT}, tr≤100 ns, f=50Hz, Tj=110℃		dI /dt	50	A/us
Peak gate current	tp=20us, Tj=110℃	I_{GM}	1.2	A
Average gate power dissipation	Tj=110℃	$P_{G(AV)}$	0.2	W

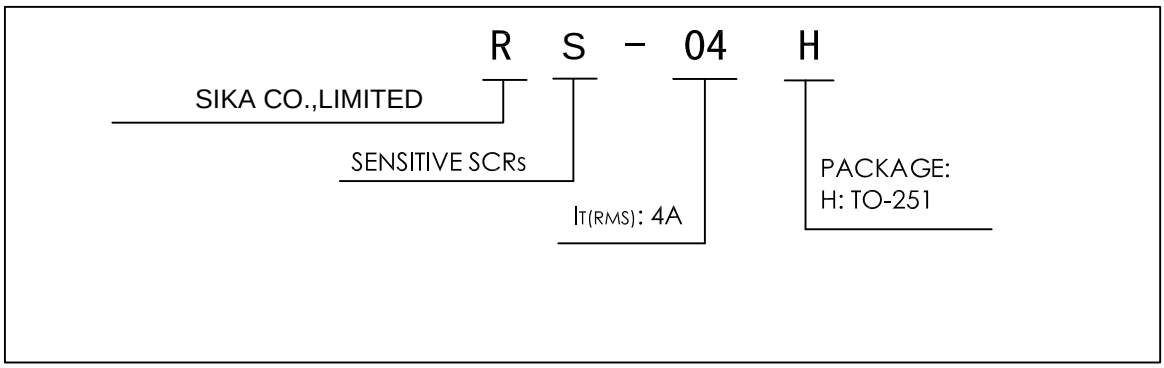
ELECTRICAL CHARACTERISTICS(Tj=25℃ unless otherwise specified)

Symbol	Test Condition		Ratings	Unit
I_{GT}	V_D=6V R_L=140Ω		30-100	uA
V_{GT}		MAX.	0.8	V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ R_{GK}=1KΩ Tj=110℃	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 tp=380uS Tj=25℃	MAX.	1.8	V
dV/dt	V_D=67%V_{DRM} R_{GK}=1KΩ Tj=110℃	MIN.	15	V/μs
I_{DRM} I_{RRM}	V_{DRM} = V_{RRM} R_{GK}=1KΩ Tj=25 ℃	MAX.	5	uA
	V_{DRM} = V_{RRM} R_{GK}=1KΩ Tj=110 ℃		1	
R_{GK}			6 - 45	K Ω

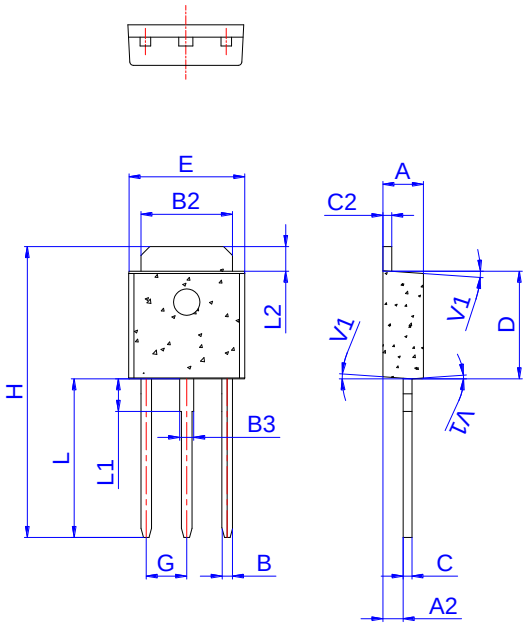
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(J-l)}$	Junction to Leads (DC)	15	℃/W

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



TO-251

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		1.90	0.071		0.075
L2	1.37		1.50	0.054		0.059
V1		4°			4°	

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

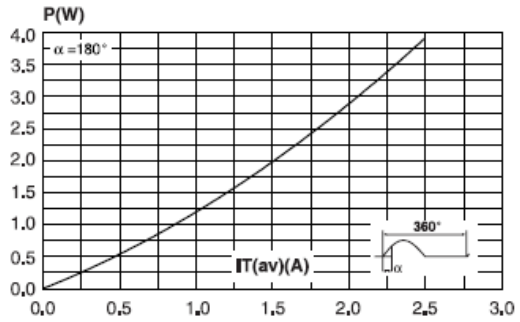


Fig. 2: Average and D.C. on-state current versus lead temperature.

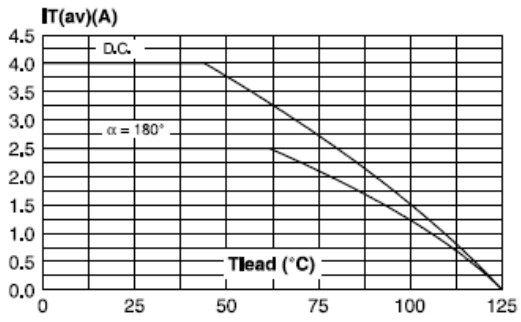


Fig. 3: Surge peak on-state current versus number of cycles.

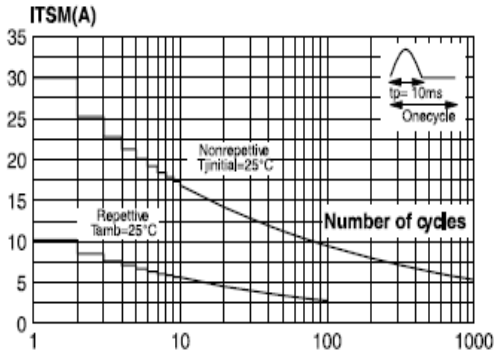


Fig. 4: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I^2t.

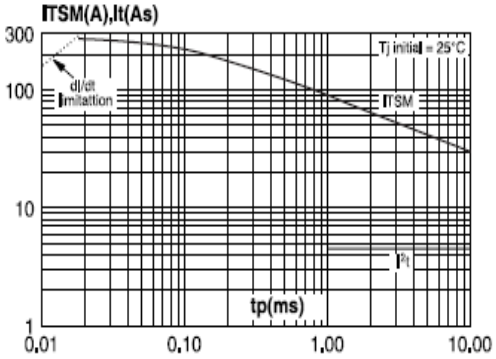


Fig. 5: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

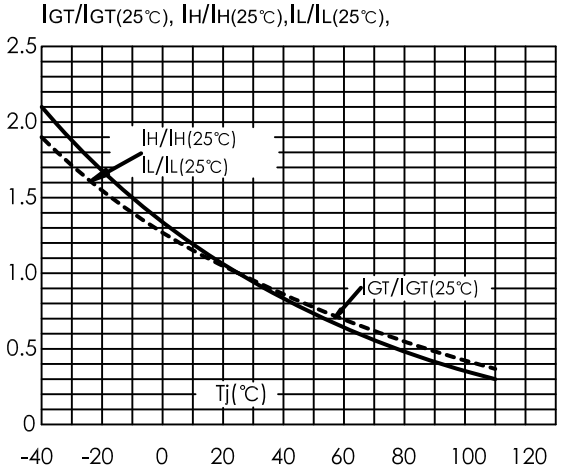


Fig.6: On-state characteristics (maximum values).