

RS04x06 Series 4A TRIACS

DESCRIPTION:

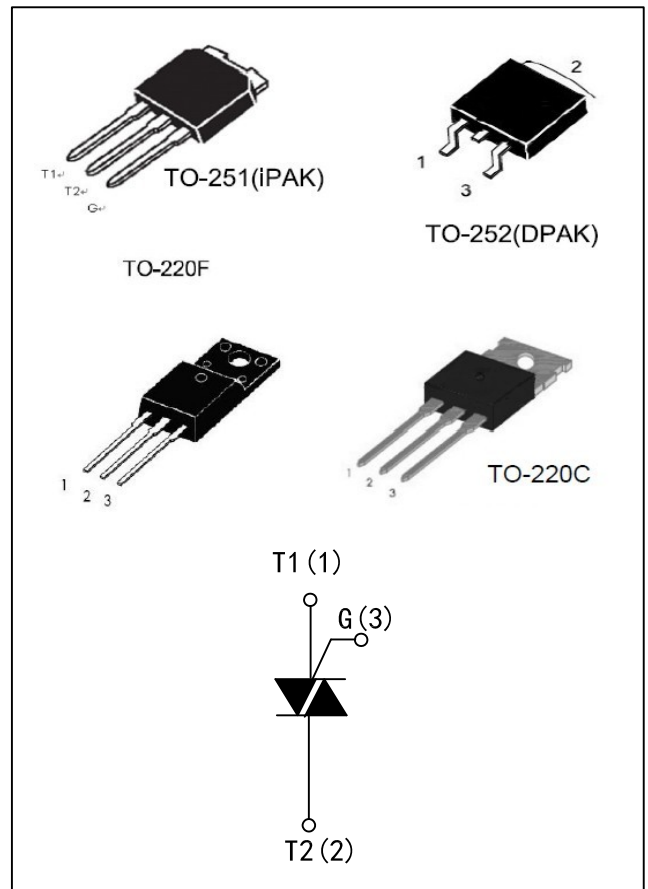
High current density due to double mesa technology, SIPOS and Glass Passivation.

RS04x06 -D -E -F -G series triacs is suitable for general purpose AC switching.

They can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits...or for phase control operation, light dimmers, motor speed controllers.

MAIN FEATURES

Symbol	Value	Unit
IT(RMS)	4	A
VDRM/VRRM	600 and 800	V
V _{TM}	1.7	V



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T _{stg}	-40 to +150	°C
Operating junction temperature range		T _j	-40 to +125	°C
Repetitive Peak Off-state Voltage	T _j =25°C	V _{DRM}	600 and 800	V
Repetitive Peak Reverse Voltage	T _j =25°C	V _{RRM}	600 and 800	
Non repetitive Surge Peak Off-state Voltage	tp=10ms, T _j =25°C	V _{DSM}	700 and 900	V
Non repetitive Peak Reverse Voltage		V _{RSM}	700 and 900	
RMS on-state current (full sine wave)	T _c =107°C	I _{T(RMS)}	4	A
Non repetitive surge peak on-state current (full cycle, T _j =25°C)	f = 60 Hz、t=16.7ms	I _{TSM}	27	A
	f = 50 Hz、t=20ms		25	
I ² t Value for fusing	tp=10ms	I ² t	3.1	A ² s
Critical rate of rise of on-state current I _G =2×I _{GT} , tr≤100 ns, f=120Hz, T _j =125°C	I-II-III IV	di /dt	50 10	A/μs
Peak gate current	tp=20us, T _j =125°C	I _{GM}	2	A
Peak gate power	tp=20us, T _j =125°C	P _{GM}	5	W
Average gate power dissipation	T _j =125°C	P _{G(AV)}	0.5	W

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

Symbol	Test Condition	Quadrant		RS04x06				Unit
				D	E	F	G	
IGT	VD=12V RL=33Ω	I-II-III IV	MAX.	5 10	10 25	25 70	50 100	mA
VGT		ALL	MAX.	1.3				V
VGD	VD=VDRM RL=3.3KΩ Tj =125°C	ALL	MIN.	0.2				V
IL	IG=1.2IGT	I-III-IV	MAX.	15	30	40	60	mA
		II	MAX.	20	40	60	90	mA
IH	IT =100mA		MAX.	10	25	30	60	mA
dV/dt	VD=67%VDRM gate open Tj=125°C		MIN.	5	10	50	200	V/μs
(dV/dt)c	(dI/dt)c=1.8A/ms Tj=125°C		MIN.	1	2	5	10	V/μs

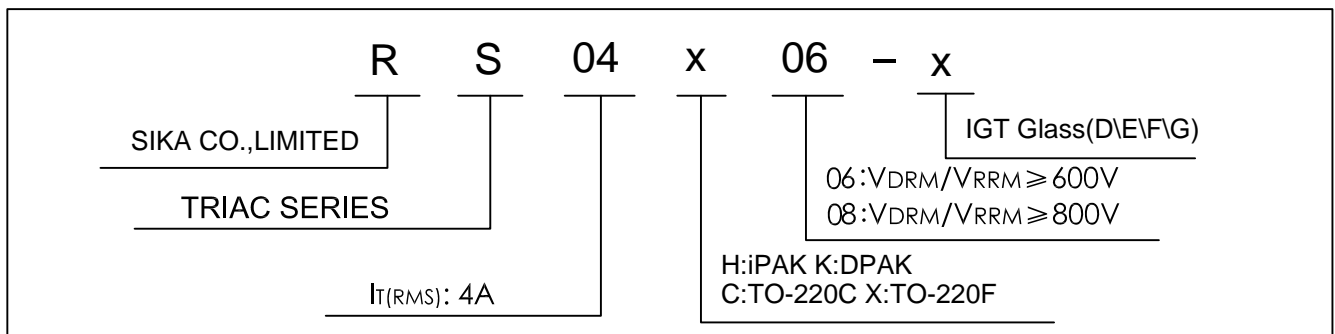
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V _{TM}	ITM=5A, tp=380μs	Tj=25°C	1.7	V
IDRM IRRM	VD=VDRM VR=VRRM	Tj=25°C	5	μA
		Tj=125°C	1	mA

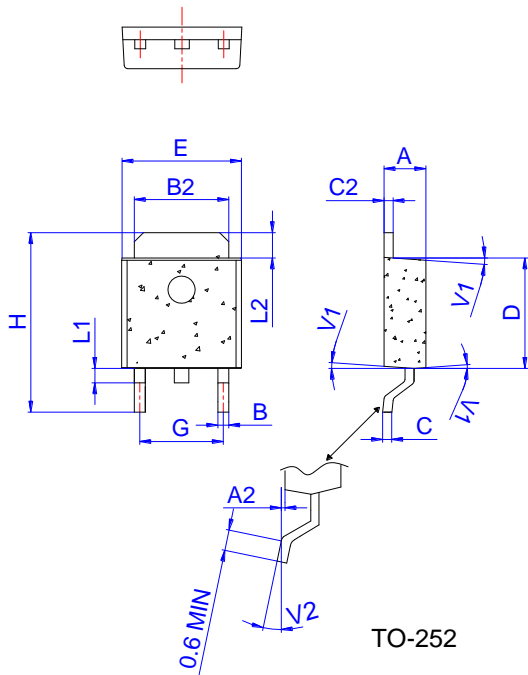
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to Case(AC)	3.0	°C/W

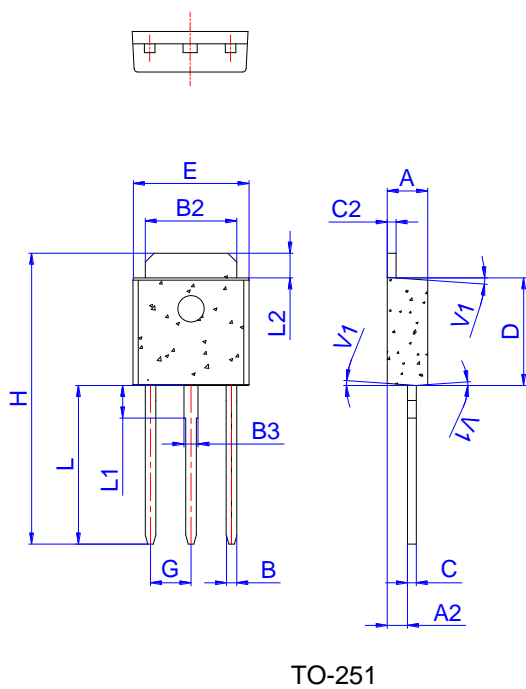
ORDERING INFORMATION



PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
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	4.40		4.70	0.173		0.185
H	9.35		10.6	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
V1		4°			4°	
V2	0°		8°	0°		8°



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 power dissipation versus RMS on-state current(full cycle)

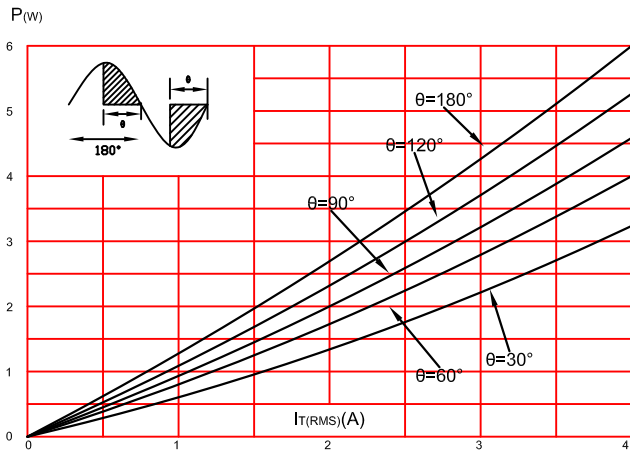


FIG.2:RMS on-state current versus case temperature(full cycle)

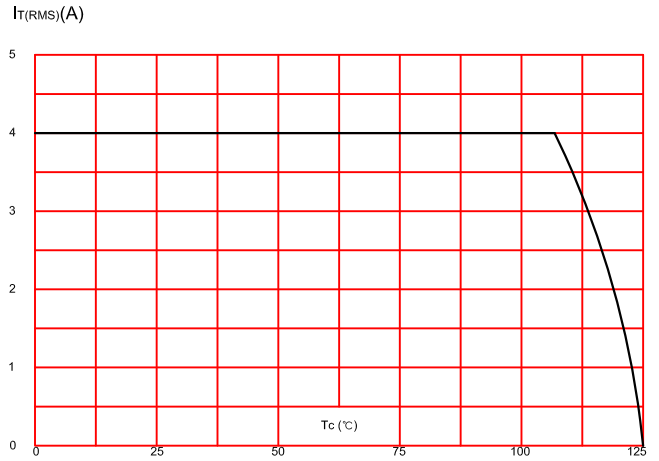


FIG.3:On-state characteristics (maximum values).

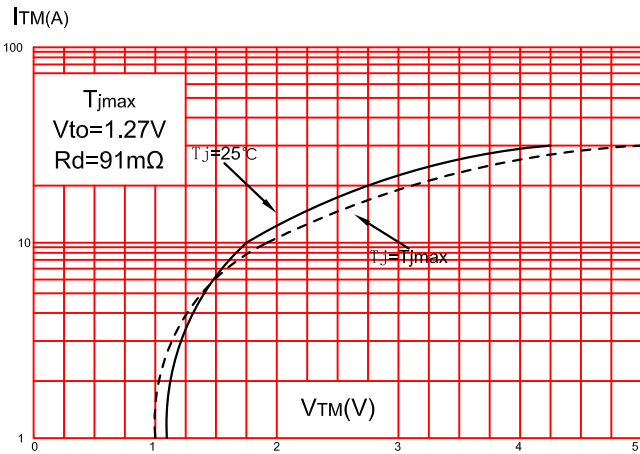


FIG.4:Surge peak on-state current versus number of cycles.

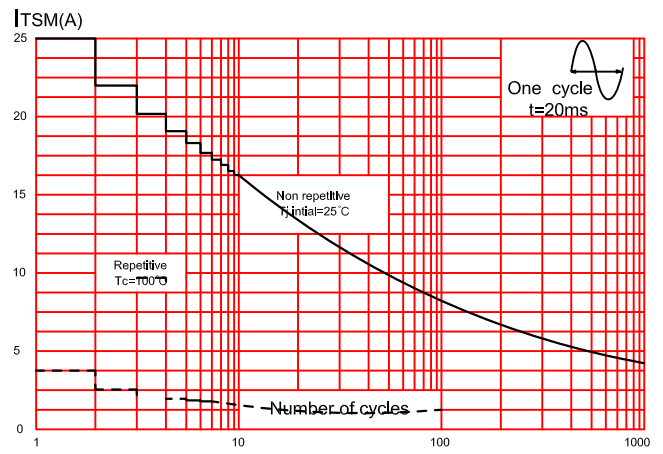


FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t .

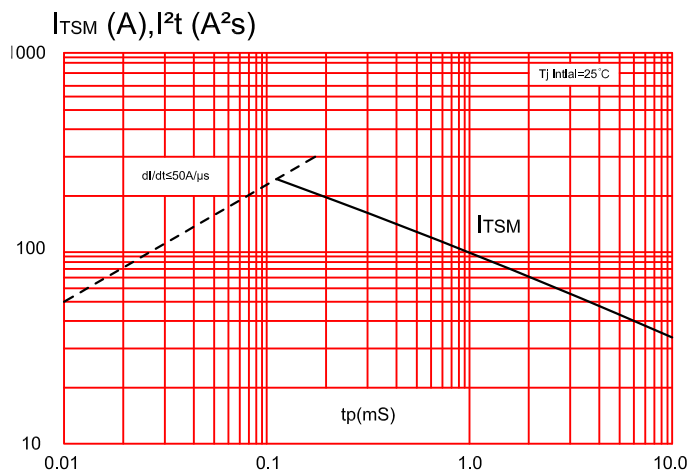


FIG.6:Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)

