RS0206T 2A TRIAC

DESCRIPTION:

Sensitive gate triac in the TO-92 or SOT-223 plastic package, intended for use in AC static switching and industrial control systems, driving low power highly inductive loads like solenoid, pump, fan, and micro-motor.

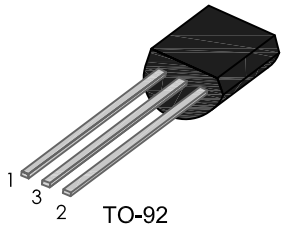
MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	2	A
V_{DRM}/V_{RRM}	1000	V
I_{GT}	≤5 or 10	mA

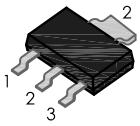
FEATURES:

dV/dt ≥ 400V/μs

V_{DRM}/V_{RRM} ≥ 1000V

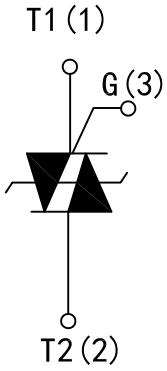


TO-92



SOT-223

Symbol



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		Tstg	-40 to +150	˚C
Operating junction temperature range		Tj	-40 to +125	˚C
Repetitive Peak Off-state Voltage Tj=25˚C		V_{DRM}	1000	V
Repetitive Peak Reverse Voltage Tj=25˚C		V_{RRM}	1000	
Non-Repetitive Surge Peak Off-state Voltage Tj=25˚C		V_{DSM}	1100	
Non-Repetitive Peak Reverse Voltage Tj=25˚C		V_{RSM}	1100	
RMS on-state current (half sine cycle)	T_C=57˚C	$I_{T(RMS)}$	2	A
Non repetitive surge peak on-state current (half sine cycle,Tj=25˚C)	f=50 Hz t=10ms	I_{TSM}	10	A
	f=60 Hz t=8.3ms		11	
I^2t Value for fusing	tp=10ms	I^2t	1.12	A^2s
Peak gate current tp=20us,Tj=125˚C		I_{GM}	1	A
Peak gate power tp=20us,Tj=125˚C		P_{GM}	1	W
Average gate power dissipation Tj=125˚C		$P_{G(AV)}$	0.2	W

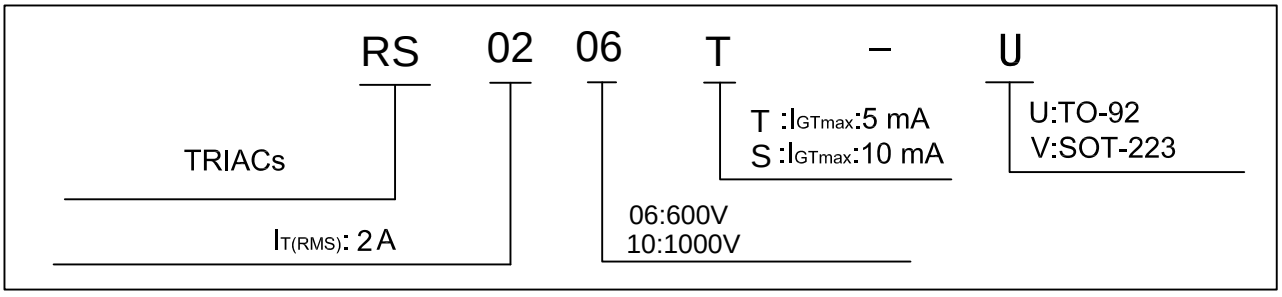
ELECTRICAL CHARACTERISTICS(Tj=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		RS0206T	RS0206S	Unit
I_{GT}	V_D=12V R_L=30Ω	T2 + G +	Max	3	6	mA
		T2 + G -	Max	5	10	
		T2 - G-	Max	5	10	
V_{GT}		T2 + G +	Max	1.4	1.5	V
		T2 + G -	Max	1.4	1.5	
		T2 - G-	Max	1.4	1.5	
V_{GD}	V_D=2/3V_{DRM} R_L=3.3KΩ Tj =125℃		Min	0.2		V
I_L	I_G=1.2I_{GT}	T2 + G +	Max	15	25	mA
		T2 + G -	Max	25	35	
		T2 - G-	Max	15	25	
I_H	I_T=100mA	ALL	Max	10	20	mA
V_{TM}	I_T=1.4A tp=380μS		Max	1.5		V
dV/dt	V_D=2/3V_{DRM} Gate open Tj=125 ℃		Min	400	600	V/μs
I_{DRM}	V_D=V_{DRM}	Tj=25 ℃	Max	10		μA
		Tj=125 ℃	Max	500		
I_{RRM}	V_R=V_{RRM}	Tj=25 ℃	Max	10		μA
		Tj=125 ℃	Max	500		

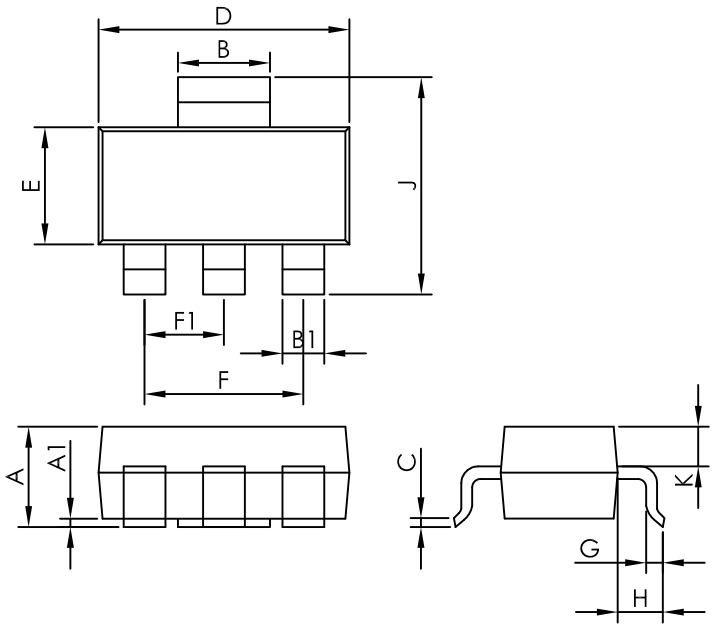
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(J-C)}$	Junction to Case (AC)	SOT-223	40	℃/W
		TO-92	60	

ORDERING INFORMATION

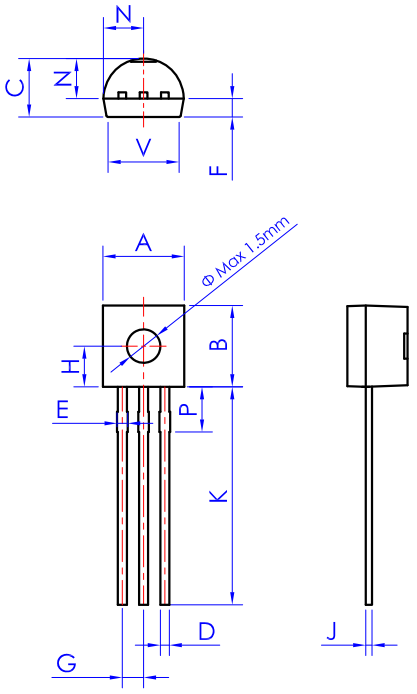


SOT-223 PACKAGE DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6			0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K		0.9			0.035	

TO-92 PACKAGE DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169

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

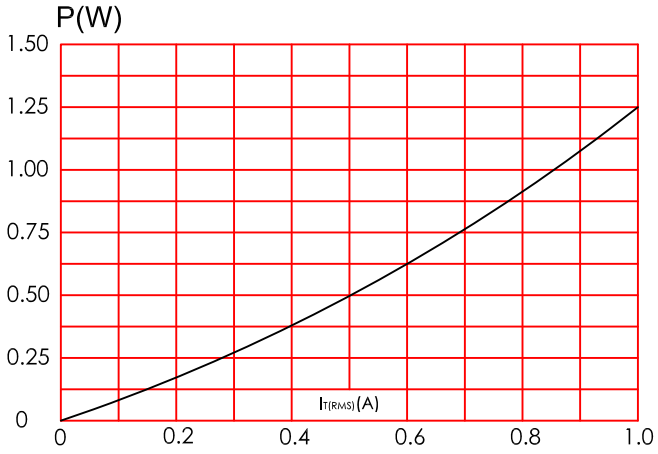


Fig. 2: RMS on-state current versus case temperature(full cycle).

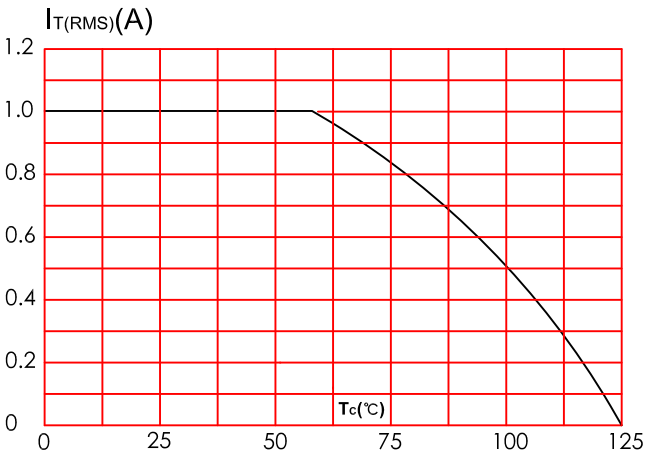


Fig.3: On-state characteristics (typical and maximum values).

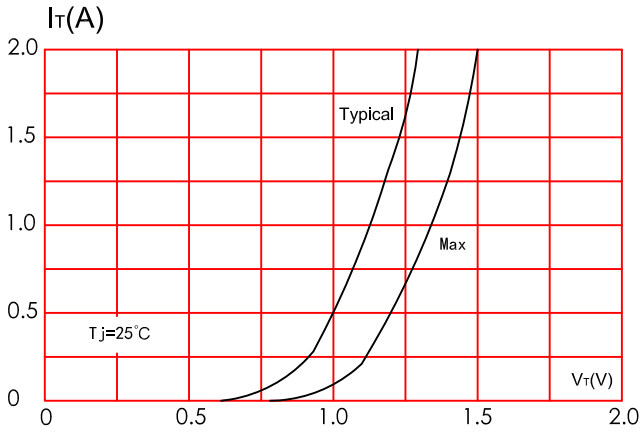


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles

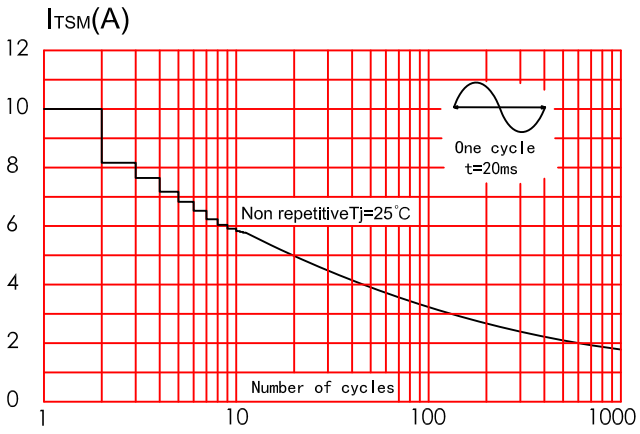


FIG5: Relative variations of gate trigger current versus junction temperature(typical values)

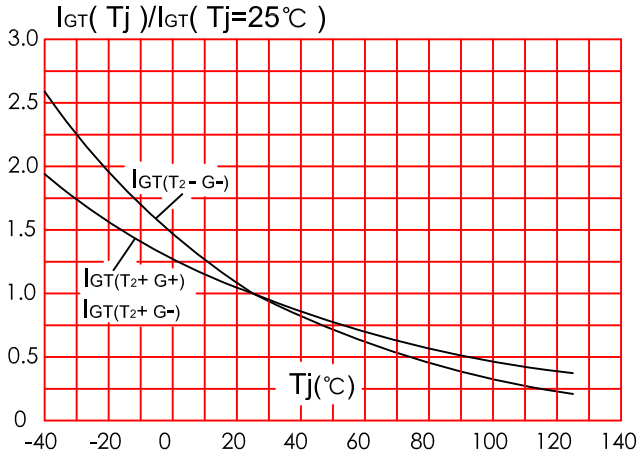


FIG6: Relative variations of holding current and latching current versus junction temperature(typical values)