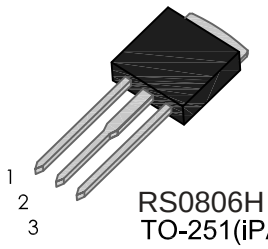
RS0806H/RS0806K Series 8A TRIACS

DESCRIPTION:

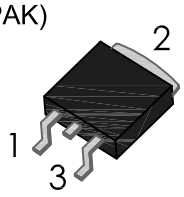
High current density due to double mesa technology, glass passivation.

RS0806H/RS0806K series triacs are 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 stating circuits... or for phase contoloperation, light dimmers,motor speed controllers.

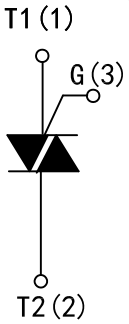
RS0806H/RS0806K are 3 quadrants triacs,They are specially recommerded for use on inductive loads.



RS0806H
TO-251(iPAK)



RS0806K
TO-252(DPAK)



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	600 and 800	V
V_{TM}	1.55	V

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		Tstg	-40 to +150	˚C
Operrating junction temperature range		Tj	-40 to +125	˚C
Repetitive Peak Off-state Voltage	Tj=25˚C	V_{DRM}	600 and 800	V
Repetitive Peak Reverse Voltage	Tj=25˚C	V_{RRM}	600 and 800	
Non repetitive Surge Peak Off-state Voltage	tp=10ms,Tj=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)	RS0806H Tc=110˚C	$I_{T(RMS)}$	8	A
	RS0806K Tc=110˚C			
Non repetitive surge peak on-state current (full cycle,Tj=25˚C)	f = 60 Hz t=16.7ms	I_{TSM}	84	A
	f = 50 Hz t=20ms		80	
I^2t Value for fusing	tp=10ms	I^2t	36	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT},tr≤100 ns,f=120Hz,Tj=125˚C)		dI /dt	50	A/μs
Peak gate current (tp=20us,Tj=125˚C)		I_{GM}	4	A
Peak Gate Power Dissipation (tp=20us,Tj=125˚C)		P_{GM}	10	W
Average gate power dissipation (Tj=125˚C)		$P_{G(AV)}$	1	W

ELECTRICAL CHARACTERISTICS(Tj=25℃ unless otherwise specified)

● 3 Quadrants

Symbol	Test Condition	Quadrant		RS0806H/RS0806K				Unit
				TW	SW	CW	BW	
I_{GT}	V_D=12V R_L=33Ω	I-II-III	MAX.	5	10	35	50	mA
V_{GT}		I-II-III	MAX.	1.3				V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ Tj =125℃	I-II-III	MIN.	0.2				V
I_L	I_G=1.2I_{GT}	I-III	MAX.	15	20	50	70	mA
		II	MAX.	25	35	60	80	mA
I_H	I_T =100mA		MAX.	10	15	40	60	mA
dV/dt	V_D=67%V_{DRM} gate open Tj=125℃		MIN.	20	40	400	1000	V/μs
(dV/dt)c	(dI/dt)c=3.5A/ms Tj=125℃		MIN.	0.5	1	10	25	V/μs

● 4 Quadrants

Symbol	Test Condition	Quadrant		RS0806H/RS0806K		Unit
				C	B	
I_{GT}	V_D=12V R_L=33Ω	I-II-III IV	MAX.	25 50	50 100	mA
V_{GT}		ALL	MAX.	1.3		V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ Tj =125℃	ALL	MIN.	0.2		V
I_L	I_G=1.2I_{GT}	I-III-IV	MAX.	35	50	mA
		II	MAX.	60	80	mA
I_H	I_T =100mA		MAX.	25	50	mA
dV/dt	V_D=67%V_{DRM} gate open Tj=125℃		MIN.	200	400	V/μs
(dV/dt)c	(dI/dt)c=3.5A/ms Tj=125℃		MIN.	5	10	V/μs

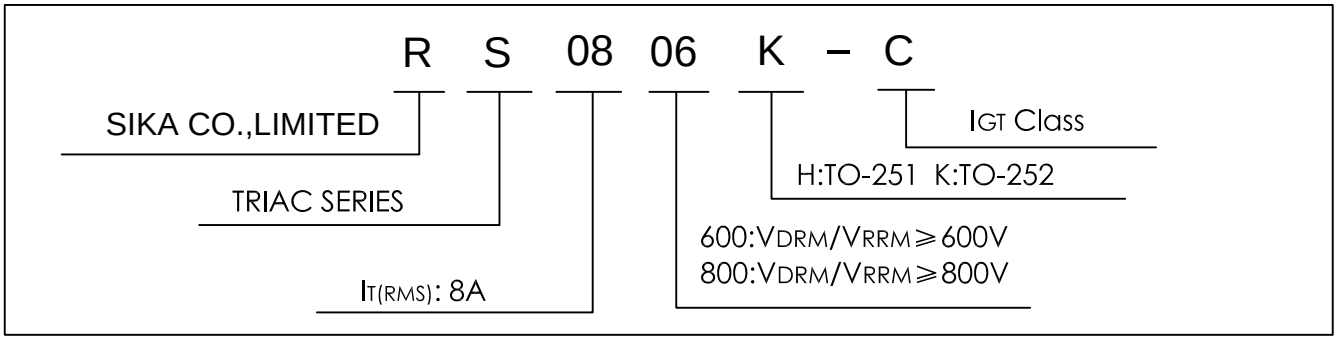
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=11A,tp=380μs	Tj=25℃	1.55	V
I_{DRM} I_{RRM}	V_D=V_{DRM} V_R=V_{RRM}	Tj=25℃	5	μA
		Tj=125℃	1	mA

THERMAL RESISTANCES

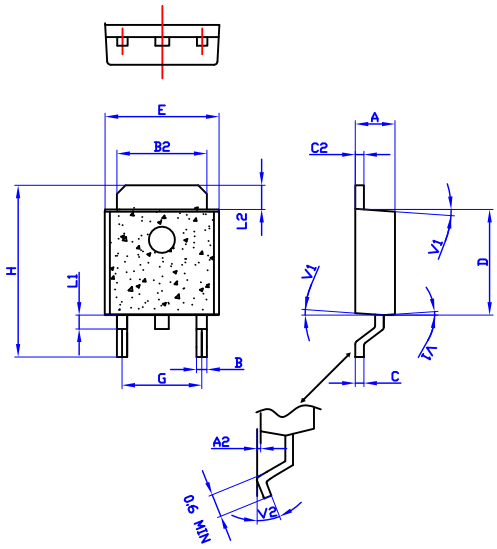
Symbol	Parameter			Value	Unit
$R_{th(J-C)}$	Junction to Case(AC)		RS0806H/RS0806K	1.6	℃/W
$R_{th(j-a)}$	Junction to ambient	S=0.5cm²	RS0806K	70	℃/W
			RS0806H	100	

ORDERING INFORMATION



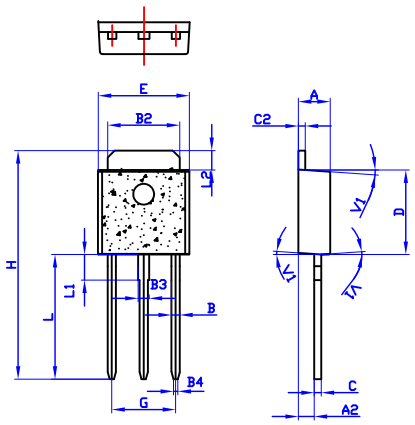
PACKAGE MECHANICAL DATA

TO-252(DPAK)



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.021		0.026
B2	5.1		5.4	0.200		0.212
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		6.7	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.1	0.368		0.397
L1		0.8			0.031	
L2	1.37		1.5	0.054		0.059
V1		4°			4°	
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		0.095
A2	0.9		1.1	0.035		0.043
B	0.55		0.65	0.021		0.026
B2	5.1		5.4	0.200		0.212
B3	0.76		0.85	0.030		0.033
B4		0.32			0.013	
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		6.7	0.252		0.264
G	4.4		4.7	0.173		0.185
H	16.0		16.7	0.630		0.658
L	8.9		9.4	0.350		0.370
L1	1.8		1.9	0.071		0.075
L2	1.37		1.5	0.054		0.059
V1		4°			4°	

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

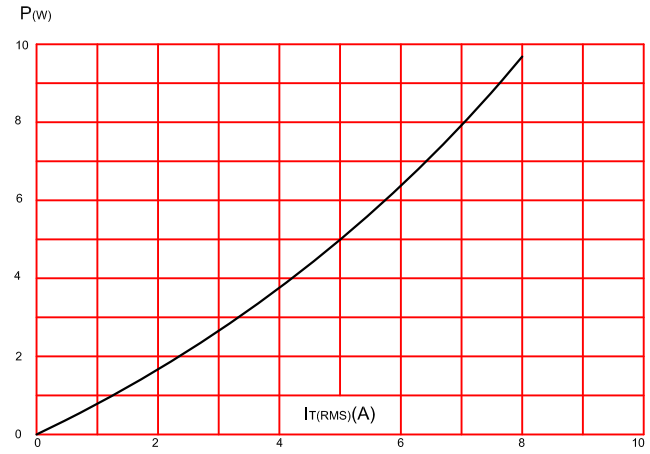


FIG.2:RMS on-state current versus case temperature(full cycle)

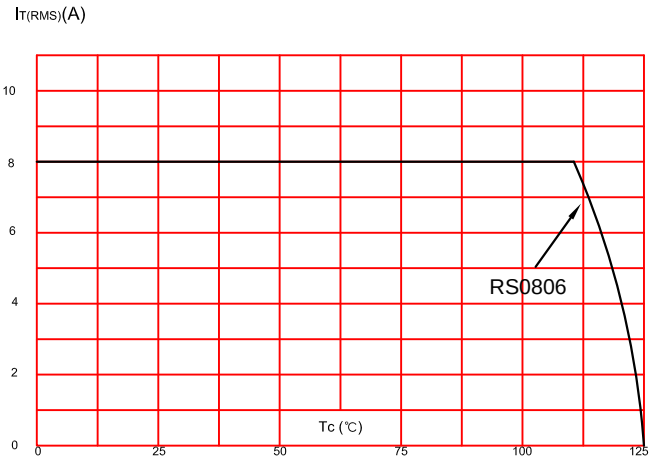


FIG.3:On-state characteristics (maximum values).

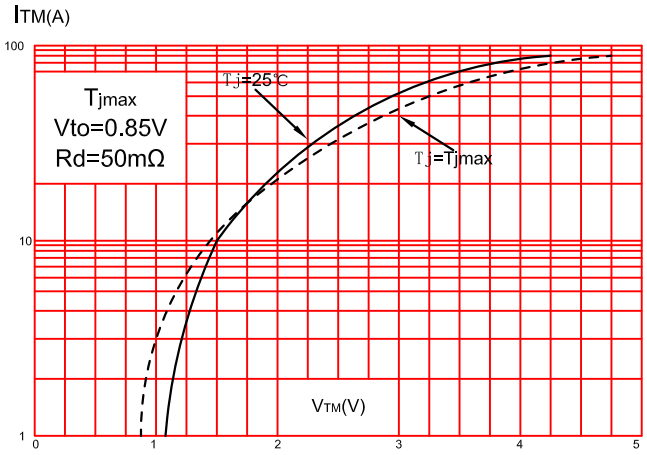


FIG.4:Surge peak on-state current versus number of cycles.

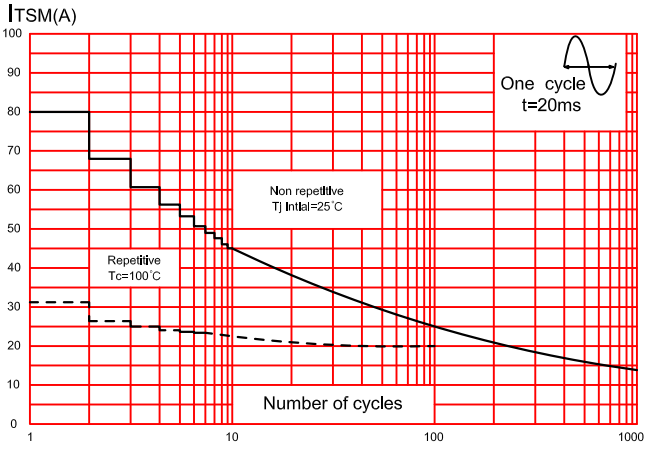


FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms,and corresponding value of I²t.

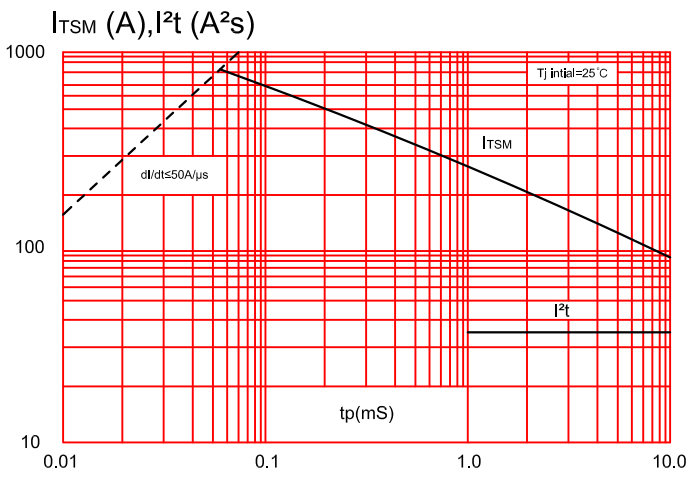
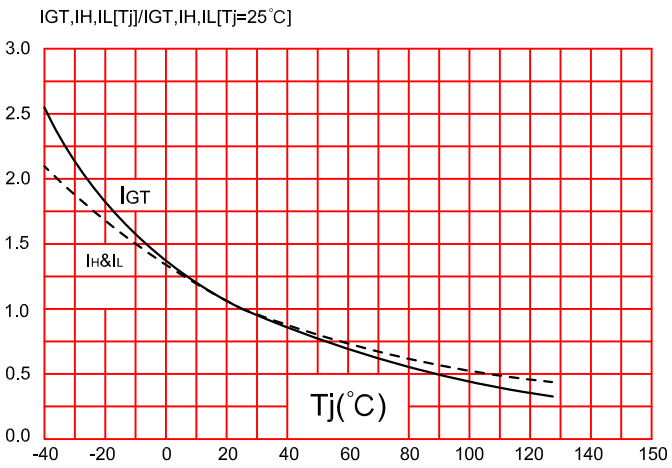


FIG.6:Relative variations of gate trigger current,holding current and latching current versus junction temperature(typical values)



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