

RS0806H/RS0806K Series 8A TRIACS
DESCRIPTION:

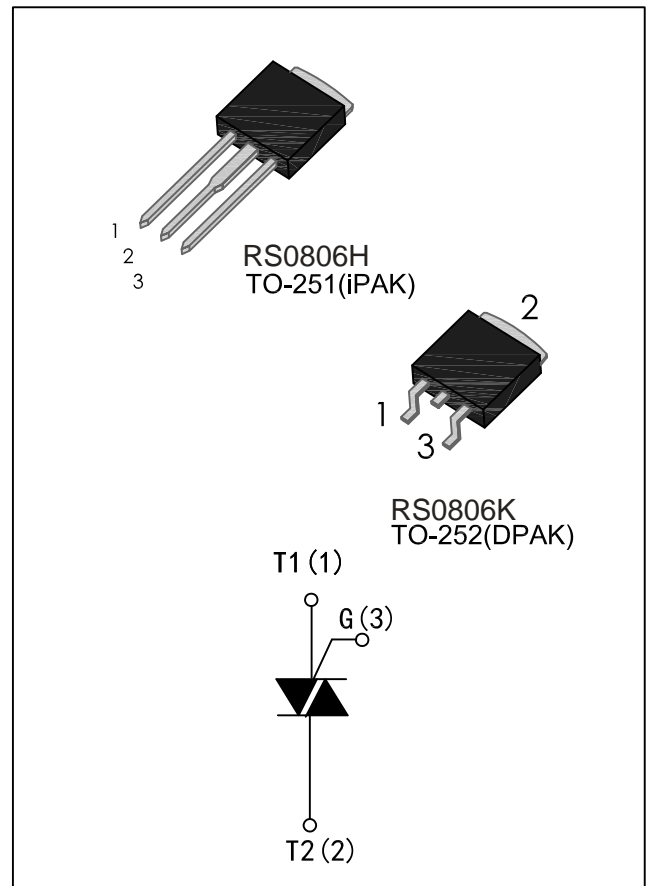
High current density due to double mesa technology, glass passivation.

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 starting circuits... or for phase control operation, light dimmers, motor speed controllers.

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

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
Operating junction temperature range	Tj	-40 to +125	°C
Repetitive Peak Off-state Voltage	Tj=25°C	VDRM	600 and 800
Repetitive Peak Reverse Voltage	Tj=25°C	VRRM	600 and 800
Non repetitive Surge Peak Off-state Voltage	tp=10ms, Tj=25°C	VDSM	700 and 900
Non repetitive Peak Reverse Voltage		VRSM	700 and 900
RMS on-state current (full sine wave)	RS0806HTc=110°C	IT(RMS)	8
	RS0806KTc=110°C		
Non repetitive surge peak on-state current (full cycle, Tj=25°C)	f = 60 Hz t=16.7ms	ITSM	84
	f = 50 Hz t=20ms		80
I²t Value for fusing	tp=10ms	I²t	36
Critical rate of rise of on-state current (Ig=2×IGT, tr≤100 ns, f=120Hz, Tj=125°C)	di / dt	50	A/μs
Peak gate current (tp=20us, Tj=125°C)	IGM	4	A
Peak Gate Power Dissipation (tp=20us, Tj=125°C)	PGM	10	W
Average gate power dissipation (Tj=125°C)	PG(AV)	1	W

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

● 3 Quadrants

Symbol	Test Condition	Quadrant		RS0806H/RS0806K				Unit
				TW	SW	CW	BW	
IGT	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	MAX.	5	10	35	50	mA
VGT		I-II-III	MAX.	1.3				V
VGD	$V_D=V_{DRM}$ $R_L=3.3\text{K}\Omega$ $T_j=125^\circ\text{C}$	I-II-III	MIN.	0.2				V
IL	$I_G=1.2I_{GT}$	I-III	MAX.	15	20	50	70	mA
		II	MAX.	25	35	60	80	mA
IH	$I_T=100\text{mA}$		MAX.	10	15	40	60	mA
dV/dt	$V_D=67\%V_{DRM}$ gate open $T_j=125^\circ\text{C}$		MIN.	20	40	400	1000	V/ μs
(dV/dt) _c	(dI/dt) _c =3.5A/ms $T_j=125^\circ\text{C}$		MIN.	0.5	1	10	25	V/ μs

● 4 Quadrants

Symbol	Test Condition	Quadrant		RS0806H/RS0806K		Unit
				C	B	
IGT	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III IV	MAX.	25 50	50 100	mA
VGT		ALL	MAX.	1.3		V
VGD	$V_D=V_{DRM}$ $R_L=3.3\text{K}\Omega$ $T_j=125^\circ\text{C}$	ALL	MIN.	0.2		V
IL	$I_G=1.2I_{GT}$	I-III-IV	MAX.	35	50	mA
		II	MAX.	60	80	mA
IH	$I_T=100\text{mA}$		MAX.	25	50	mA
dV/dt	$V_D=67\%V_{DRM}$ gate open $T_j=125^\circ\text{C}$		MIN.	200	400	V/ μs
(dV/dt) _c	(dI/dt) _c =3.5A/ms $T_j=125^\circ\text{C}$		MIN.	5	10	V/ μs

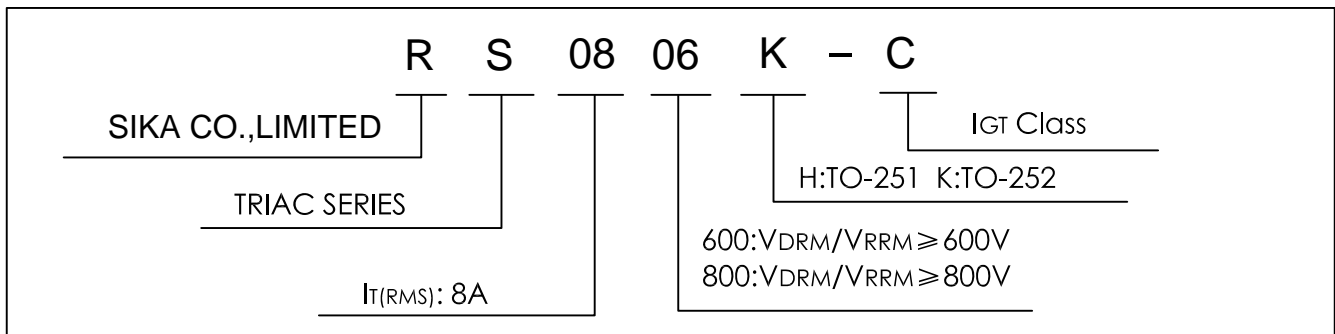
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V _{TM}	I _{TM} =11A, t _p =380μs	T _j =25°C	1.55	V
I _{DRM} I _{RRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	5	μA
		T _j =125°C	1	mA

THERMAL RESISTANCES

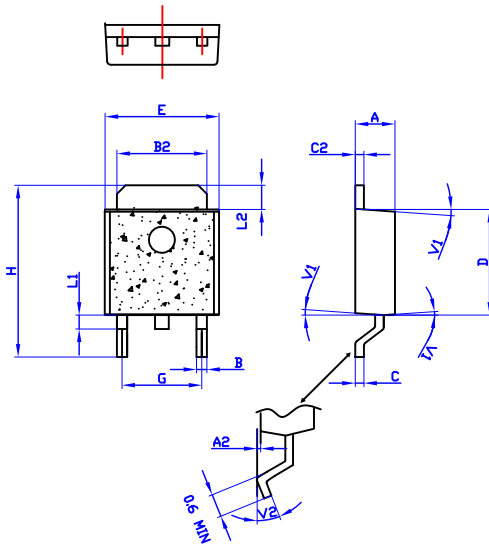
Symbol	Parameter		Value	Unit
R _{th} (J -C)	Junction to Case(AC)	RS0806H/RS0806K	1.6	°C/W
R _{th} (j-a)	Junction to ambient	S=0.5cm ² RS0806K	70	°C/W
		RS0806H	100	

ORDERING INFORMATION



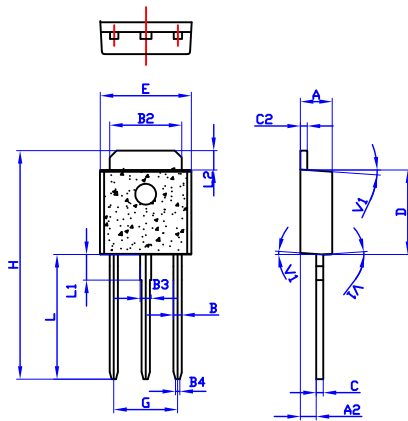
PACKAGE MECHANICAL DATA

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)

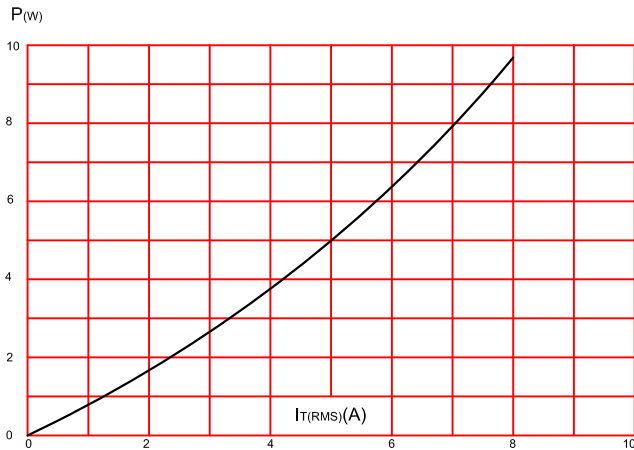


FIG.2: RMS on-state current versus case temperature (full cycle)

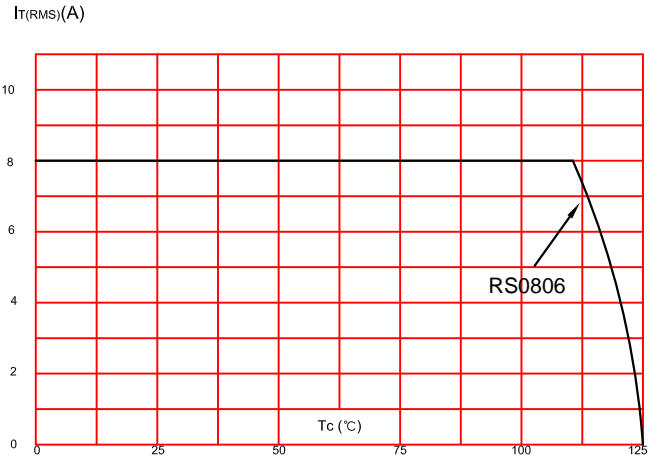


FIG.3: On-state characteristics (maximum values).

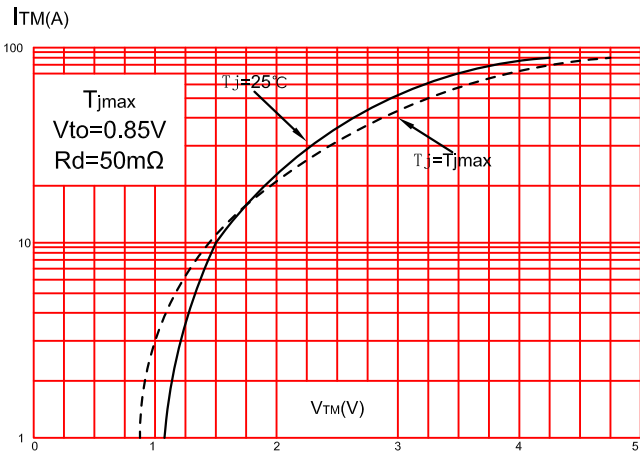


FIG.4: Surge peak on-state current versus number of cycles.

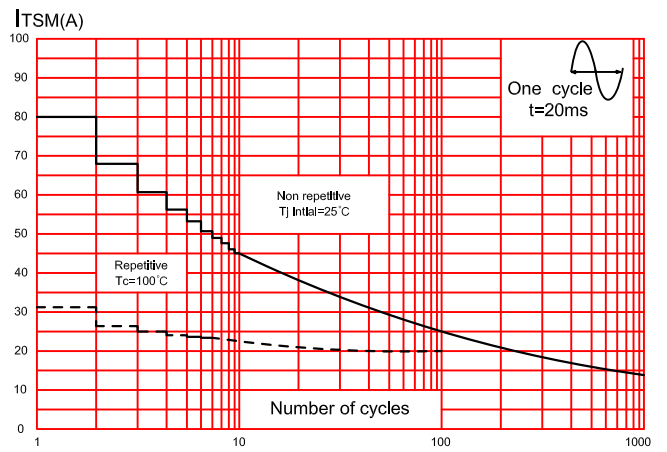


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t .

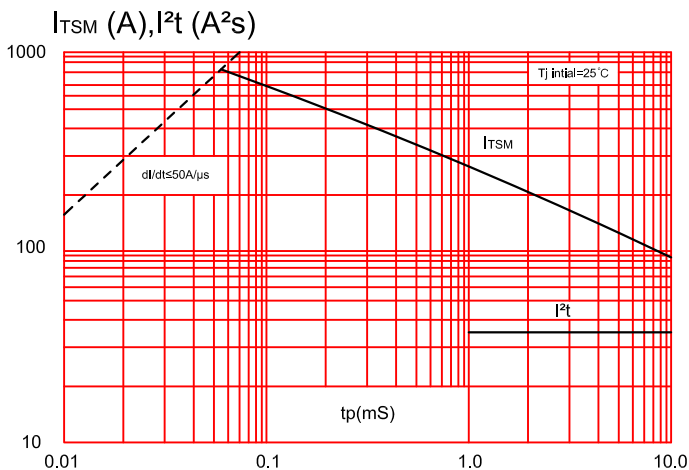


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

