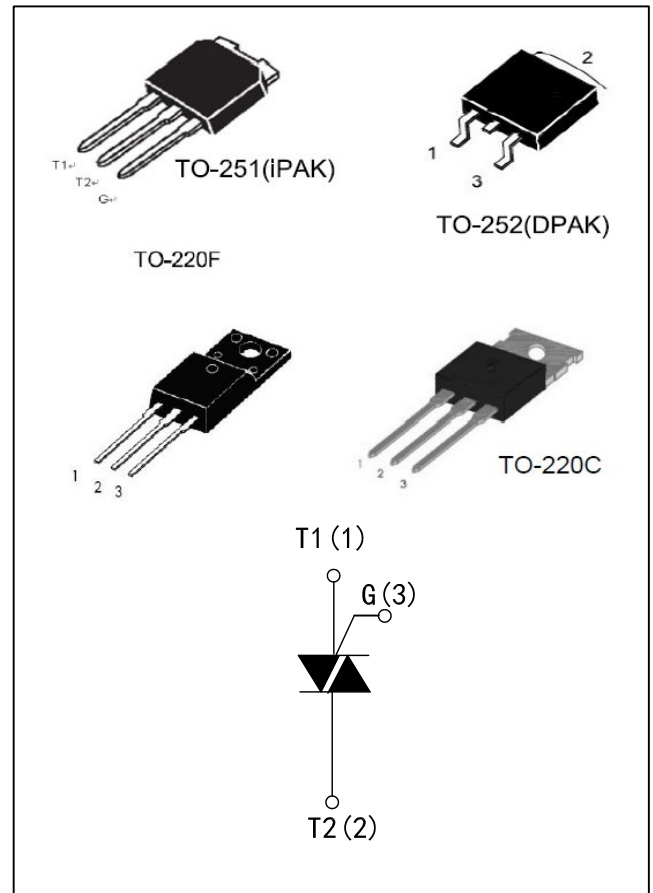


**RS08x06 Series 8A TRIACS**
**DESCRIPTION:**

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

RS08x06 -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
$I_{T(RMS)}$	8	A
$V_{DRM}/V_{RRM}$	600 to 800	V
$V_{TM}$	$\leq 1.65$	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 Repetitive Peak Reverse Voltage	$V_{DRM}$ $V_{RRM}$	600 to 800 600 to 800	V
Non repetitive Surge Peak Off-state Voltage Non repetitive Peak Reverse Voltage	$V_{DSM}$ $V_{RSM}$	700 to 900 700 to 900	V
RMS on-state current (full sine wave)	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, Tj=25°C)	f = 50 Hz t=20ms	65 71	A
	f = 60 Hz t=16.7ms		
I <sup>2</sup> t Value for fusing tp=10ms	I <sup>2</sup> t	21	A <sup>2</sup> s
Critical rate of rise of on-state current IG=2×IGT, tr≤100 ns, f=120Hz, Tj=125°C	di /dt	50	A/us
Peak gate current tp=20us, Tj=125°C	IGM	2	A
Average gate power dissipation Tj=125°C	PG(AV)	0.5	W

ELECTRICAL CHARACTERISTICS (T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		RS08x06				Unit
				D	E	F	G	
I <sub>GT</sub>	V <sub>D</sub> =12V R <sub>L</sub> =30Ω	I - II - III IV	MAX.	5 10	10 25	25 70	50 100	mA
V <sub>GT</sub>		ALL	MAX.	1.5				V
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> R <sub>L</sub> =3.3KΩ T <sub>j</sub> =125°C	ALL	MIN.	0.2				V
I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	I - III	MAX.	15	15	30	45	mA
		II - IV		20	20	45	60	
I <sub>H</sub>	I <sub>T</sub> =100mA		MAX.	10	15	20	40	mA
dV/dt	V <sub>D</sub> =67%V <sub>DRM</sub> gate open T <sub>j</sub> =125°C		MIN.	5	50	50	200	V/μs
(dl/dt) <sub>c</sub>	(dV/dt) c=0.1V/μs T <sub>j</sub> =125°C		MIN.	---	---	---	---	A/ms
	(dV/dt) c=10V/μs T <sub>j</sub> =125°C			---	---	---	---	
	Without snubber T <sub>j</sub> =125°C			---	---	---	---	

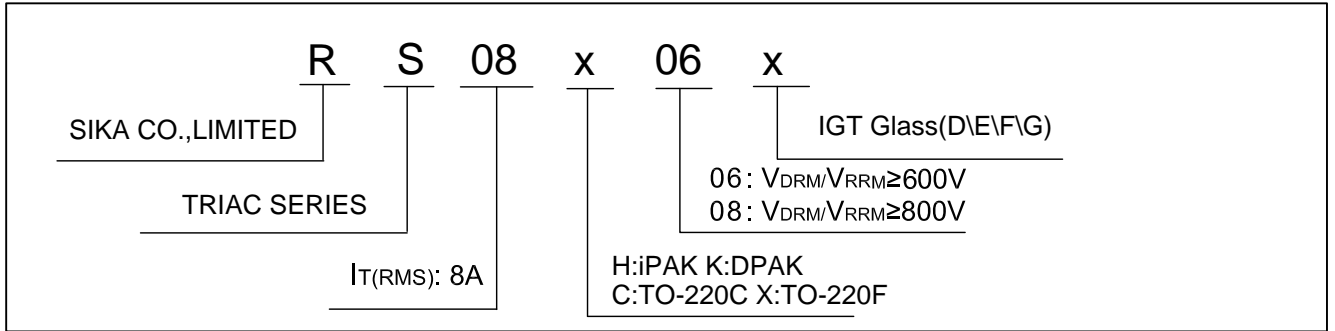
## STATIC CHARACTERISTICS

Symbol	Test Conditions		Value (MAX)	Unit
V <sub>TM</sub>	I <sub>TM</sub> =10A, t <sub>p</sub> =380μs	T <sub>j</sub> =25°C	1.65	V
I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub>	T <sub>j</sub> =25°C	5	μA
I <sub>RRM</sub>	V <sub>R</sub> =V <sub>RRM</sub>	T <sub>j</sub> =125°C	1	mA

## THERMAL RESISTANCES

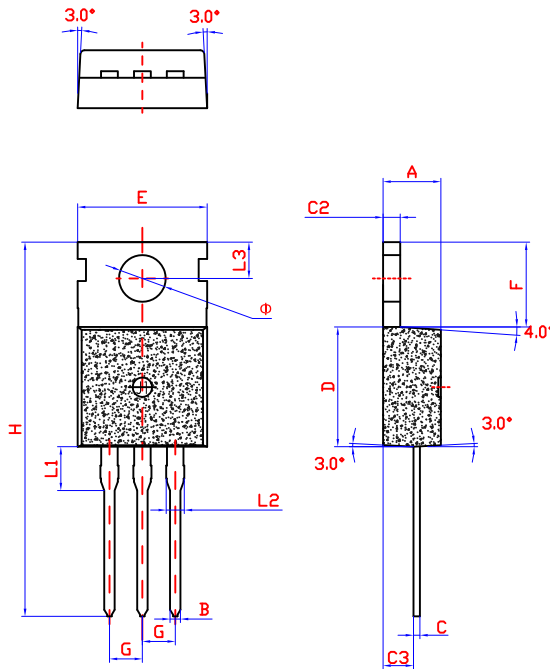
Symbol	Parameter		Value	Unit
R <sub>th(j-c)</sub>	Junction to case (AC)	full cycle	2.0	°C/W
		half cycle	2.4	

ORDERING INFORMATION



PACKAGE MECHANICAL DATA

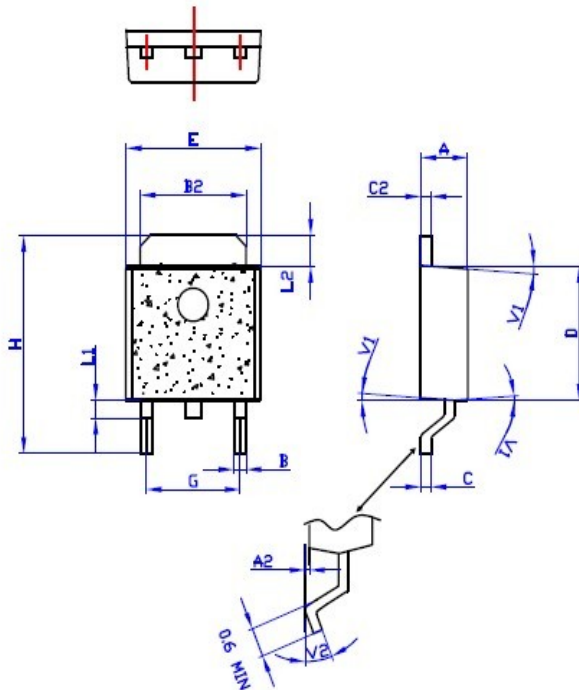
TO-220CH



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		1.181
B	0.7		0.9	0.027		0.035
C	0.45		0.6	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.2		2.6	0.086		0.102
D	8.9		9.9	0.350		0.390
E	9.9		10.3	0.390		0.406
F	6.3		6.9	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	11.0		11.7
L1		3.2			0.126	
L2	1.14		1.7	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

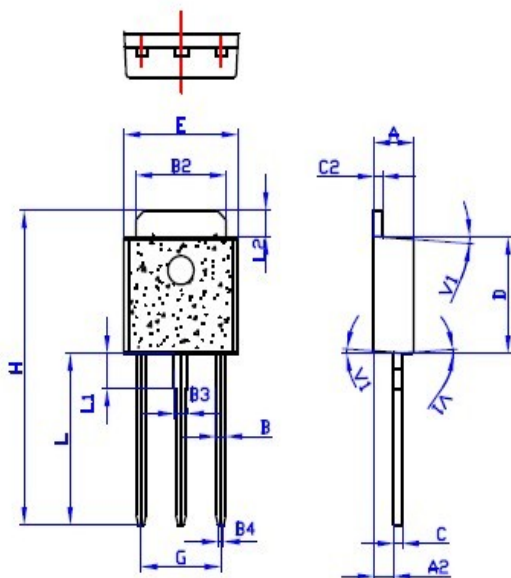
PACKAGE MECHANICAL DATA

TO-252(DPAK)



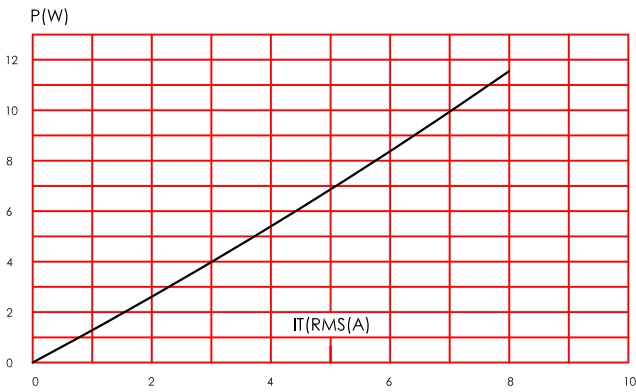
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.021		0.026
B2	5.1		5.4	0.200		0.212
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		6.7	0.252		0.264
G	4.40		4.70	0.173		0.185
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)

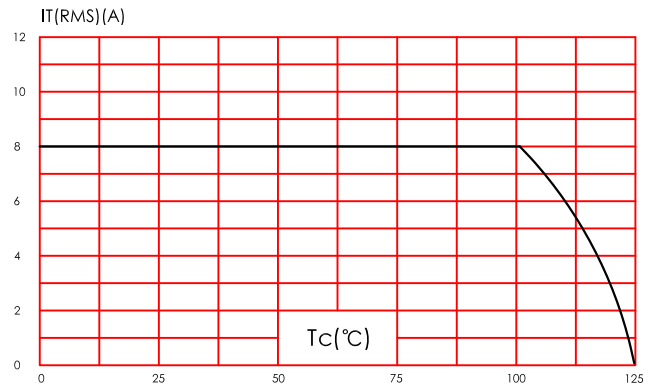


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.095
A2	0.9		1.1	0.035		0.043
B	0.55		0.65	0.021		0.026
B2	5.1		5.4	0.200		0.212
B3	0.76		0.85	0.030		0.033
B4		0.32			0.013	
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		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°	

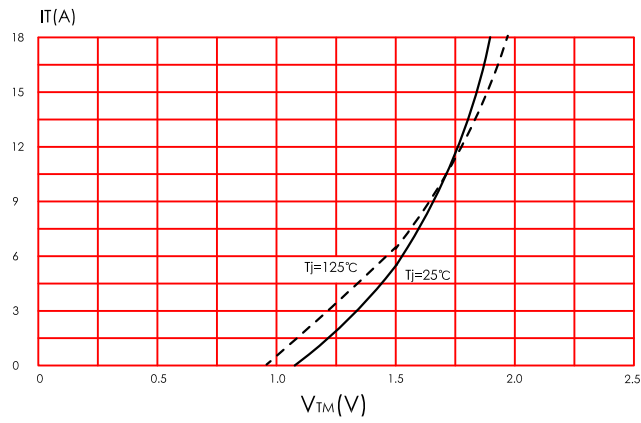
**FIG.1:** Maximum power dissipation versus RMS on-state current(full cycle)



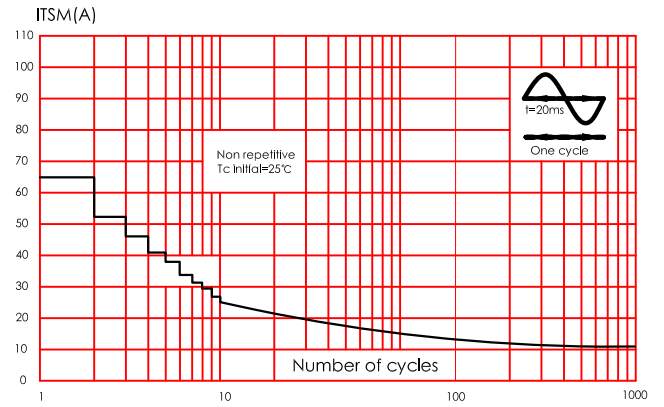
**FIG.2:** RMS on-state current versus case temperature(full cycle)



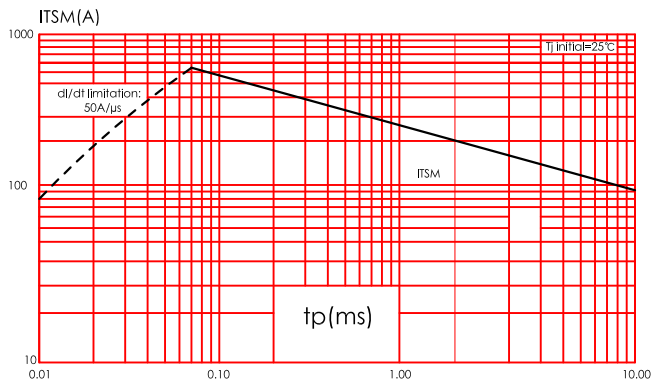
**FIG.3:** On-state characteristics (maximum values)



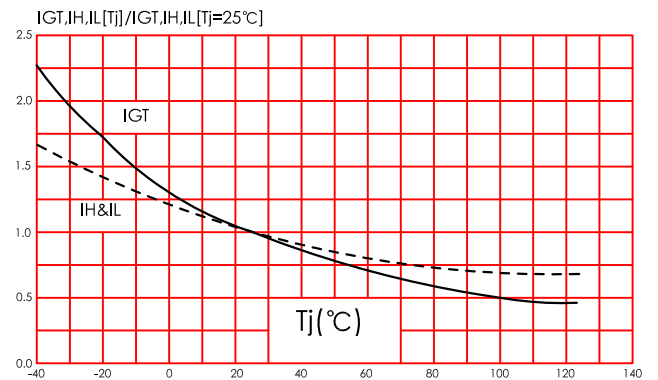
**FIG.4:** Surge peak on-state current versus number of cycles.



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10ms$



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



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