

● **Description:**

High current density due to single mesa technology;
SIPOS and Glass Passivation.

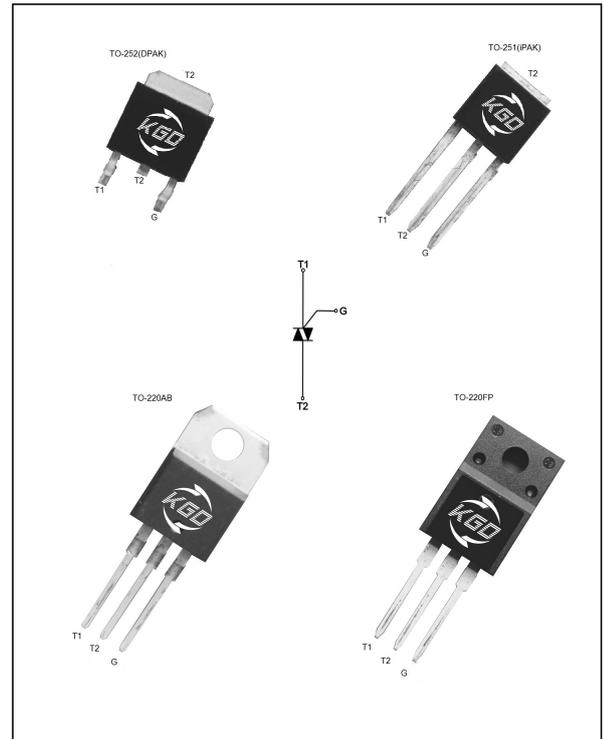
● **Applications:**

T8XX 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.

● **Features:**

T8XX are 3 Quadrants TRIACS, They are specially recommended for use on inductive loads.
T8XX are isolated internally, they provide a 2500V RMS isolation voltage from all three terminals to external heatsink.
Blocking voltage to 800V
On-state RMS current to 8A
Non-repetitive peak on-state current to 80A

● **Absolute Maximum Ratings**



Symbol	Parameter	Conditions	Min	Max	Unit
V_{DRM}	Repetitive peak off-state voltage	$T_j=25^{\circ}C$	-	800	V
$I_{T(RMS)}$	RMS on-state current	$F=60Hz, T_c=110^{\circ}C$	-	8	A
I_{TSM}	Non-repetitive peak On-state current	$F=50Hz, t=20ms$	-	80	A
		$F=60Hz, t=16.7ms$	-	84	A
I^2t	I^2t for fusing	$T_p=10ms$	-	36	A^2S
di/dt	Rate of rise of on-state current	$I_G=2 \times I_{GT}, t_r \leq 100ns, T_j=150^{\circ}C$	-	50	$A/\mu s$
I_{GM}	Peak gate current		-	4	A
P_{GM}	Peak gate power	$t_p=20\mu s, T_j=150^{\circ}C$	-	5	W
$P_{G(AV)}$	Average gate power		-	1	W
T_{STG}	Storage temperature		-40	150	$^{\circ}C$
T_j	Junction temperature		-40	125	$^{\circ}C$

● Thermal Characteristics

Symbol	Parameter	Value	Unit	
$R_{th(j-mb)}$	Junction to Case(AC)	DPAK/IPAK	1.6	$^{\circ}C/W$
		TO-220AB Insulated/TO-220FP	2.5	
$R_{th(j-a)}$	Junction to ambient	DPAK/IPAK	60	$^{\circ}C/W$
		TO-220AB Insulated/TO-220FP		

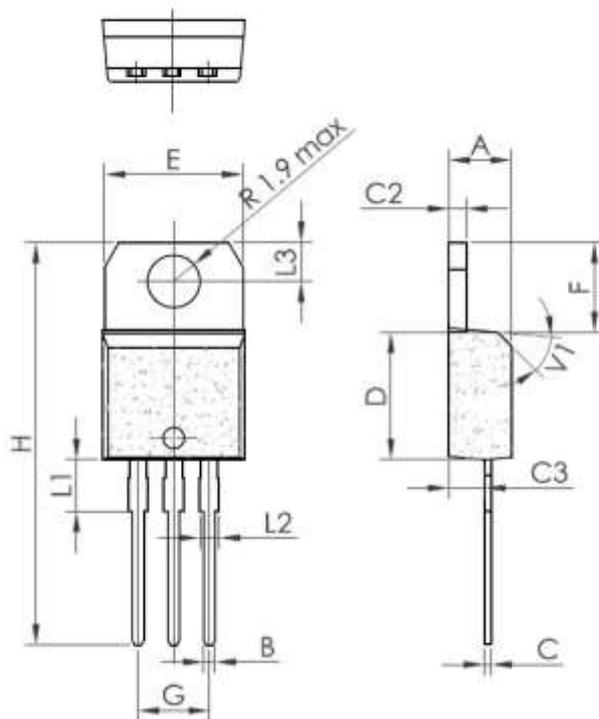
● Electrical Characteristics

Symbol	Conditions	Quadrant	Numerical				Unit
			T805	T810	T835	T850	
V_{TM}	$I_T=17A, t_p=380\mu s$	$T_J=25^{\circ}C$ MAX		1.55			V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_J=25^{\circ}C$ MAX		10			μA
I_{RRM}		$T_J=150^{\circ}C$ MAX		3.0			mA
I_{GT}	$V_D=12V, R_L=33\Omega$	I-II-III MAX	5	10	35	50	mA
V_{GT}		I-II-III MAX			1.5		V
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, T_J=150^{\circ}C$	I-II-III MIN			0.2		V
I_L	$I_T=1.2I_{GT}$	I-III MAX	10	25	50	70	mA
		II MAX	15	30	60	80	mA
I_H	$I_T=100mA$	MAX	10	15	35	50	Ma
dv/dt	$V_{DM}=67\%V_{DRM}, \text{gate open}, T_J=150^{\circ}C$	MIN	20	40	400	1000	V/ μs

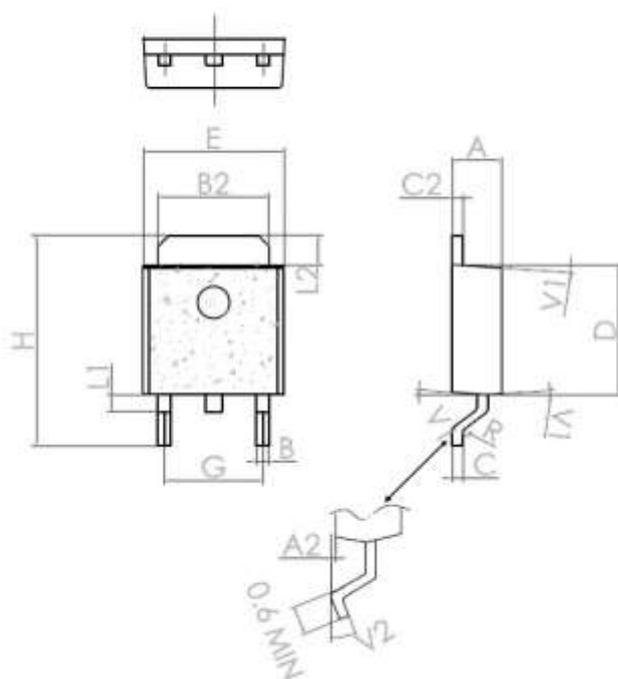
● Ordering Information

<p>T 8 xx x T</p> <p>Kacoda TRIAC SERIES</p> <p>$I_{T(RMS)}: 8A$</p> <p>20: $I_{GT1}/I_{GT2}/I_{GT3} \leq 20mA$</p> <p>35: $I_{GT1}/I_{GT2}/I_{GT3} \leq 35mA$</p> <p>50: $I_{GT1}/I_{GT2}/I_{GT3} \leq 50mA$</p>	<p>F: TO-220FP</p> <p>T: TO-220AB</p> <p>B: TO-252/DPAK</p> <p>H: TO-251/IPAK</p> <p>6: $V_{DRM}/V_{RRM} \geq 600V$</p> <p>8: $V_{DRM}/V_{RRM} \geq 800V$</p>
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● Package Outline Dimensions

TO-220AB


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		1.181
B	0.61		0.88	0.024		0.034
C	0.49		0.70	0.019		0.027
C2	1.23		1.32	0.048		0.051
C3	2.4		2.72	0.094		0.107
D	8.6		9.7	0.338		0.382
E	10		10.4	0.393		0.409
F	6.2		6.6	0.244		0.259
G	4.8		5.4	0.189		0.213
H	28.0		29.8	11.0		11.7
L1		3.75			0.147	
L2	1.14		1.7	0.044		0.066
L3	2.65		2.95	0.104		0.116
V1		40°			40°	

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	5.2		5.4	0.204		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		6.6	0.251		0.259
G	4.40		4.60	0.173		0.181
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°

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

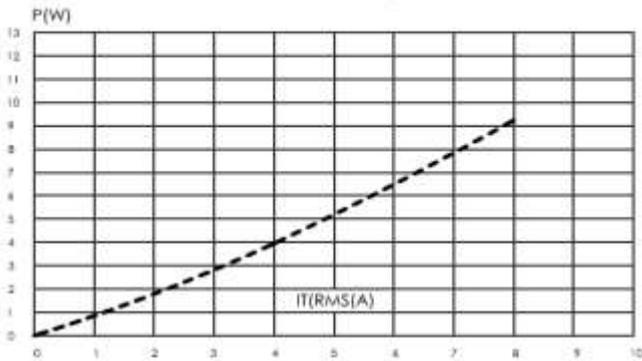


FIG.2: RMS on-state current versus case temperature (full cycle)

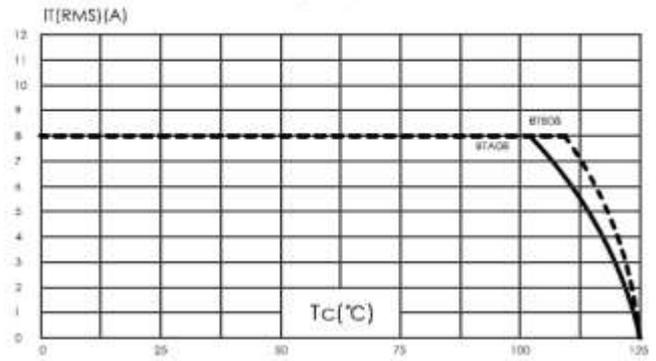


FIG.3: On-state characteristics (maximum values)

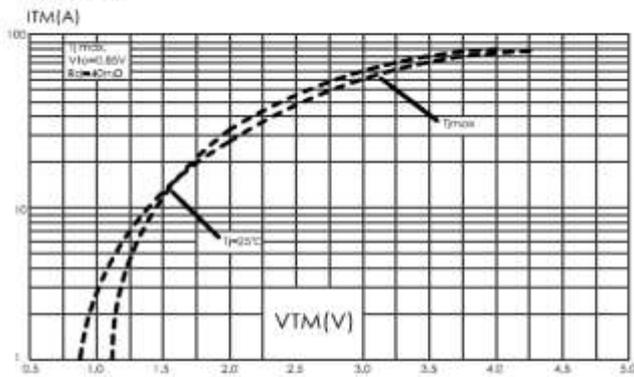


FIG.4: Surge peak on-state current versus number of cycles.

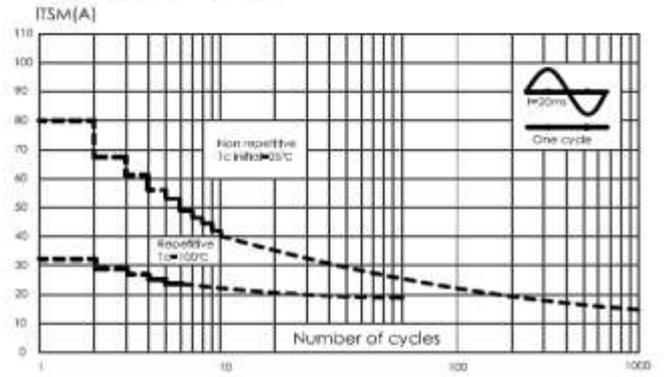


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

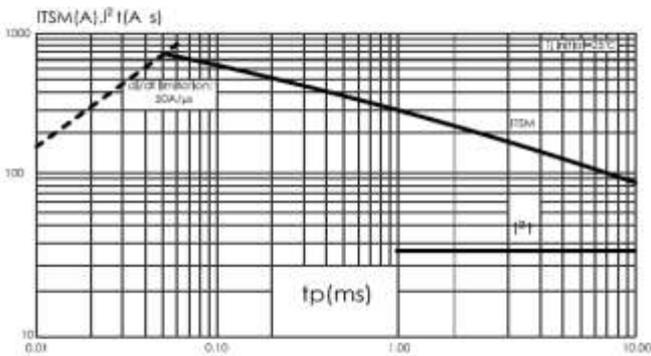


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

