

Description:

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

Applications:

T4XX 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.

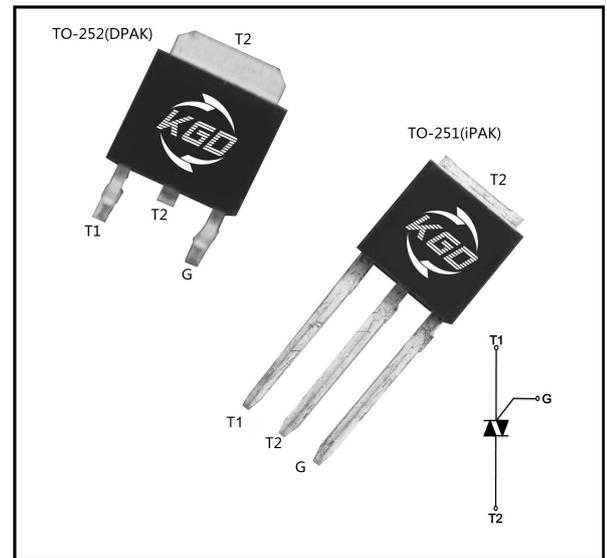
Features:

T4XX are 3 Quadrants TRIACs, They are specially recommended for use on inductive loads.

Blocking voltage to 600 & 800V

On-state RMS current to 4A

Non-repetitive peak on-state current to 35A

Absolute Maximum Ratings


Symbol	Parameter	Conditions	Min	Max	Unit
V_{DRM}	Repetitive peak off-state voltage	$T_J=25^{\circ}C$	600	800	V
$I_{T(RMS)}$	RMS on-state current	$T_c=105^{\circ}C$	-	4	A
I_{TSM}	Non-repetitive peak On-state current	$F=50Hz, t=20ms$	-	35	A
		$F=60Hz, t=16.7ms$	-	38	A
I^2t	I^2t for fusing	$T_p=10ms$	-	36	A^2S
di/dt	Rate of rise of on-state current	$I_G=2 \times I_{GT}, t_r \leq 100ns, T_J=125^{\circ}C$	-	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	2.6	$^{\circ}C/W$
$R_{th(j-a)}$	Junction to am bient DPAK/IPAK	60	$^{\circ}C/W$

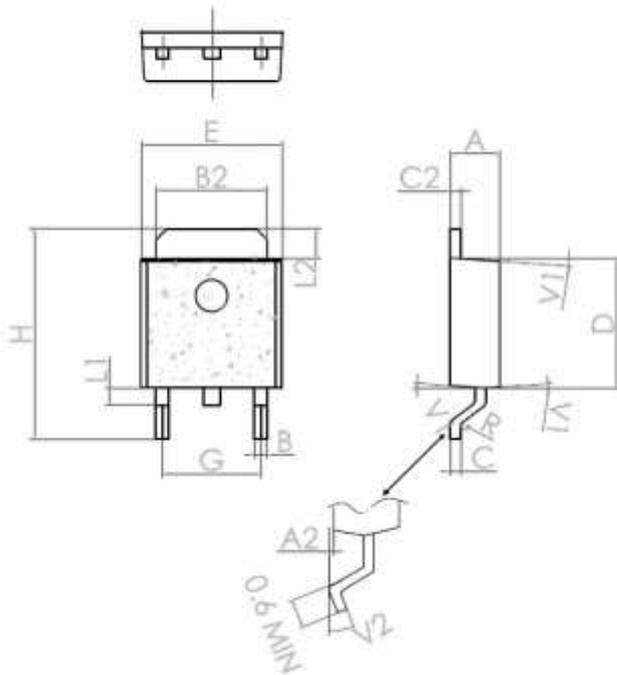
● Electrical Characteristics

Symbol	Conditions	Quadrant	Numerical			Unit
			T405	T410	T435	
V_{TM}	$I_T=5.5A, t_p=380\mu s$ $T_J=25^{\circ}C$	MAX		1.6		V
I_{DRM} I_{RRM}	$V_D=V_{DRM}, V_R=V_{RRM}$ $T_J=25^{\circ}C$	MAX		5.0		μA
I_{GT}	$V_D=12V, R_L=33\Omega$ $T_J=125^{\circ}C$	MAX		1.0		mA
V_{GT}		I-II-III	5	10	35	mA
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, T_J=150^{\circ}C$	I-II-III		1.3		V
I_L	$I_T=1.2I_{GT}$	I-II-III	10	25	50	mA
		II	15	30	60	mA
I_H	$I_T=500mA$	MAX	10	15	35	Ma
dv/dt	$V_{DM}=67\%V_{DRM}, \text{gate open}, T_J=150^{\circ}C$	MIN	20	40	400	V/ μs

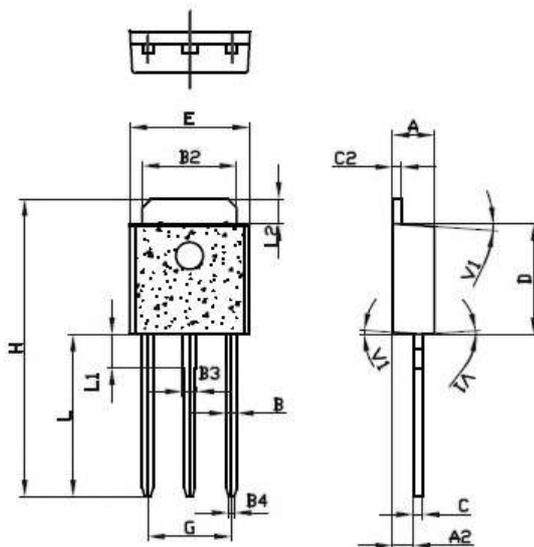
● Ordering Information

T 4 xx x B
Kacoda TRIAC SERIES
$I_{T(RMS)}: 4A$
05: $I_{GT1}/I_{GT2}/I_{GT3} \leq 05mA$ 10: $I_{GT1}/I_{GT2}/I_{GT3} \leq 10mA$ 35: $I_{GT1}/I_{GT2}/I_{GT3} \leq 35mA$
B: TO-252/DPAK H: TO-251/IPAK 6: $V_{DRM}/V_{RRM} \geq 600V$ 8: $V_{DRM}/V_{RRM} \geq 800V$

● Package Outline Dimensions

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°

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)

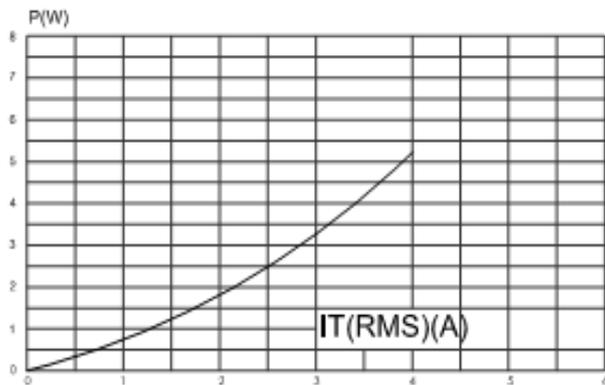


FIG.2: RMS on-state current versus case temperature(full cycle)

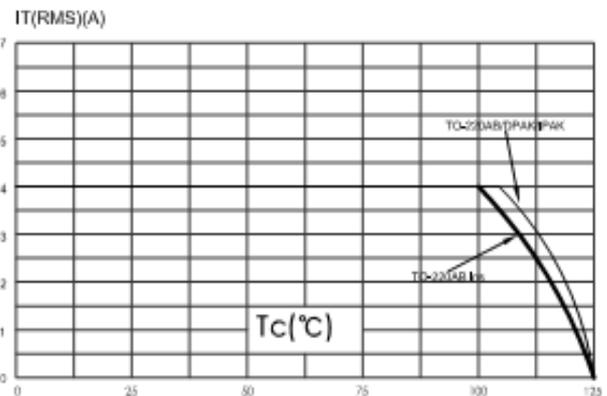


FIG.3: On-state characteristics (maximum values)

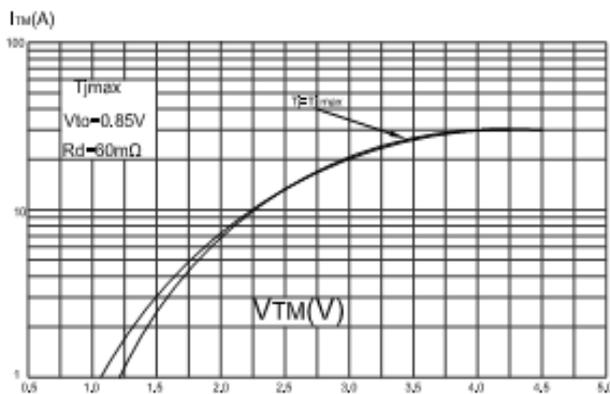


FIG.4: Surge peak on-state current versus number of cycles

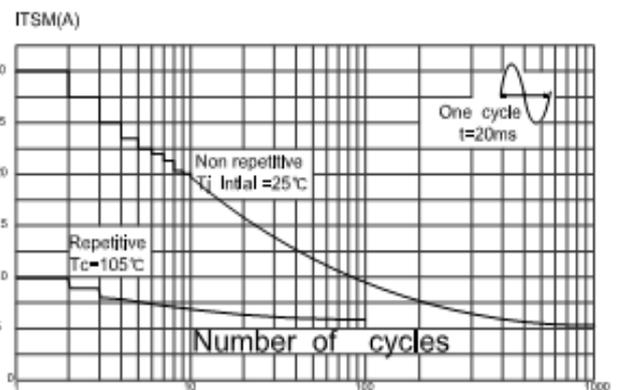


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$.

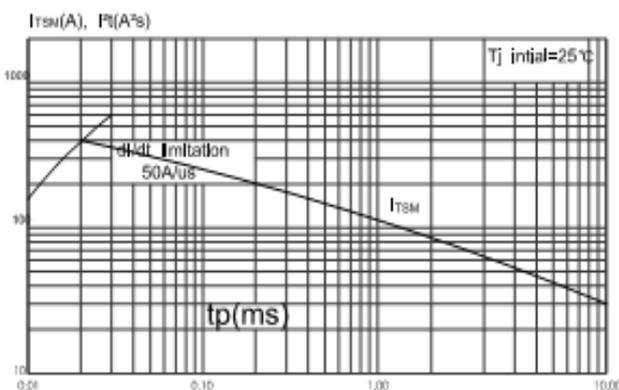


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)

