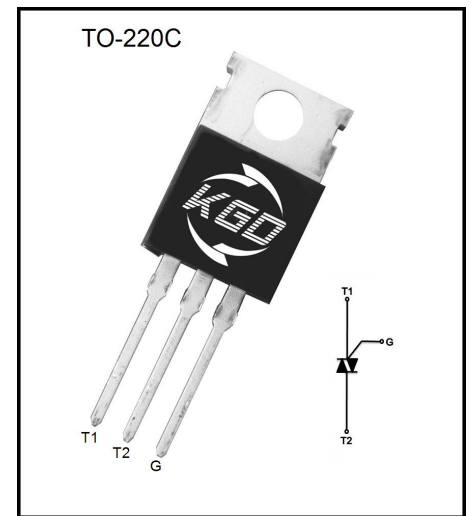


BT137 Series

- Description:**
 High current density due to mesa technology;Glass Passivation.
- Applications**
 BT137 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 stating circuits... or for phase contol operation light dimmers,motor speed controllers.
- Features:**
 Blocking voltage to 600 & 800V
 On-state RMS current to 8A
 Non-repetitive peak on-state current to 71A
- Absolute Maximum Ratings**



Symbol	Parameter	Conditions	Value	Unit	
V_{DRM}	Repetitive peak off-state voltage	$T_J=25^{\circ}C$	600 & 800	V	
V_{RRM}	Repetitive peak Reverse voltage	$T_J=25^{\circ}C$	600 & 800	V	
$I_{T(RMS)}$	RMS on-state current (full sine wave)	$T_c=110^{\circ}C$	8	A	
I_{TSM}	Non-repetitive surge peak On-state current (full cycle, $T_J=25^{\circ}C$)	$f=60Hz, tp=16.7ms$	71	A	
		$f=50Hz, tp=20ms$	65		
I^2t	I^2t Value for fusing	$tp=10ms$	21	A^2S	
I_{GM}	Peak gate current	$tp=20\mu s, T_J=125^{\circ}C$	2	A	
$P_{G(AV)}$	Average gate power dissipation		0.5	W	
P_{GM}	Peak gate power dissipation	$tp=10ms, T_J=125^{\circ}C$	5	W	
T_{STG}	Storage temperature		-40	150	$^{\circ}C$
T_J	Junction temperature		-40	125	$^{\circ}C$

● Electrical Characteristics

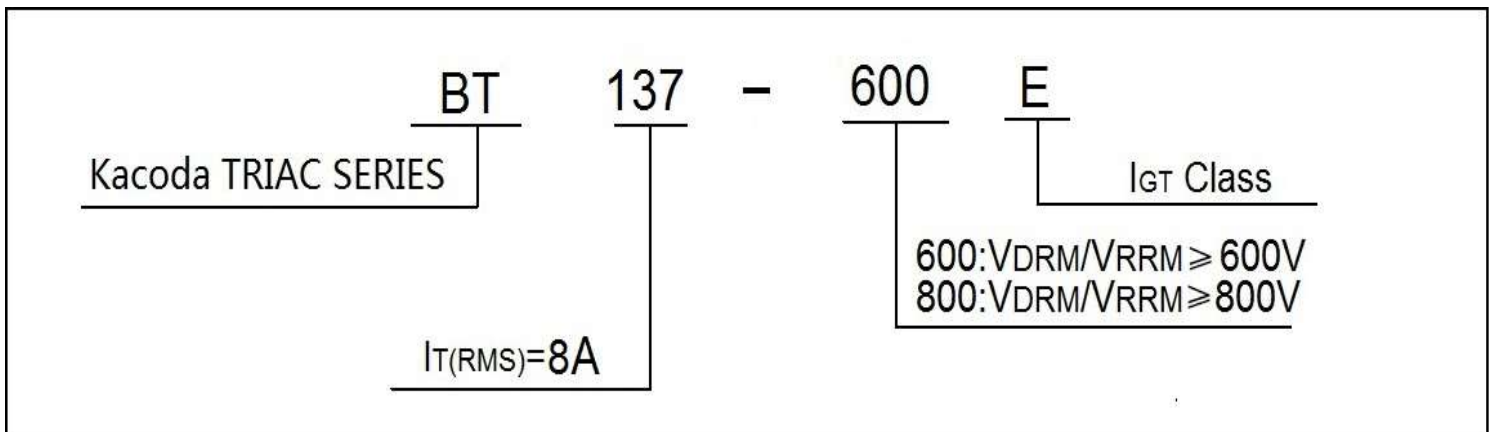
Symbol	Conditions	Quadrant	Value				Unit	
			D	E	F	G		
I_{GT}	$V_D=12V, R_L=33\Omega$	I - II - III	5	10	25	50	mA	
		IV	10	25	70	100		
V_{GT}		ALL	MAX	1.3			V	
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, T_J=125^\circ C$	ALL	MIN	0.2			V	
I_L	$I_G=1.2I_{GT}$	I - III - IV	MAX	15	30	40	60	mA
		II		20	40	60	90	
I_H	$I_T=100mA$		MAX	10	25	30	60	mA
dv/dt	$V_{DM}=67\%V_{DRM}, \text{gate open}, T_J=125^\circ C$		MIN	10	20	200	400	V/ μs

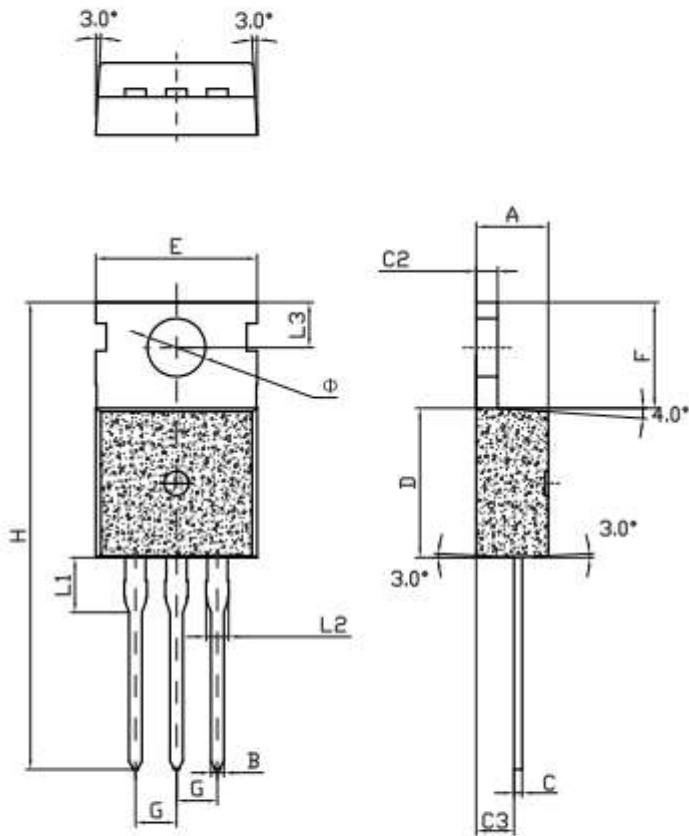
● Electrical Characteristics

Symbol	Parameter	Numerical	Unit	
V_{TM}	$I_T=5A, t_p=380\mu s$	$T_J=25^\circ C$	1.65	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_J=25^\circ C$	5	μA
I_{RRM}		$T_J=125^\circ C$	1	mA

● Thermal Characteristics

Symbol	Parameter	Numerical(MAX)	Unit
$R_{th(j-c)}$	Junction to case(AC)	2.0	$^\circ C/W$

● Ordering Information


Package Outline Dimensions
TO-220C


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	

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

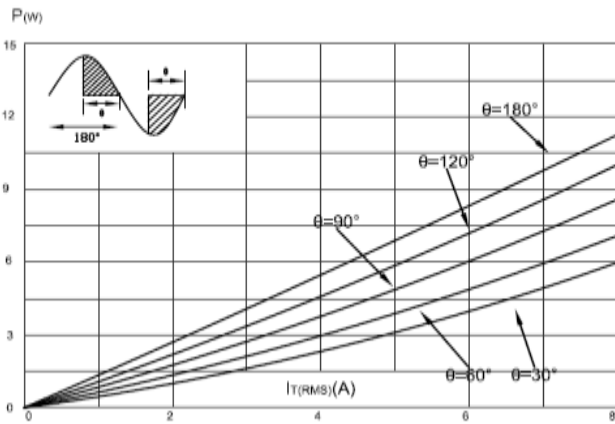


FIG.2:RMS on-state current versus case temperature(full cycle)

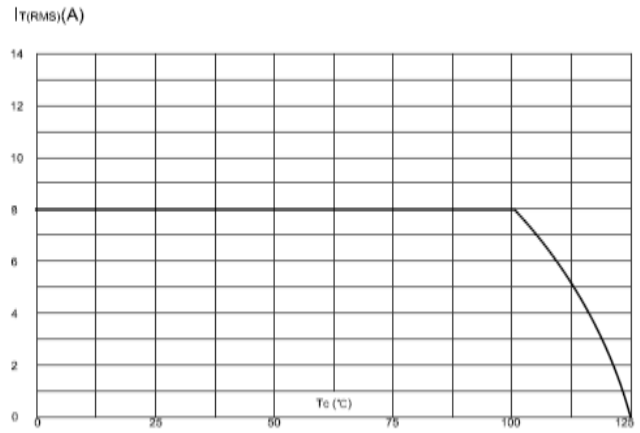


FIG.3:On-state characteristics (maximum values).

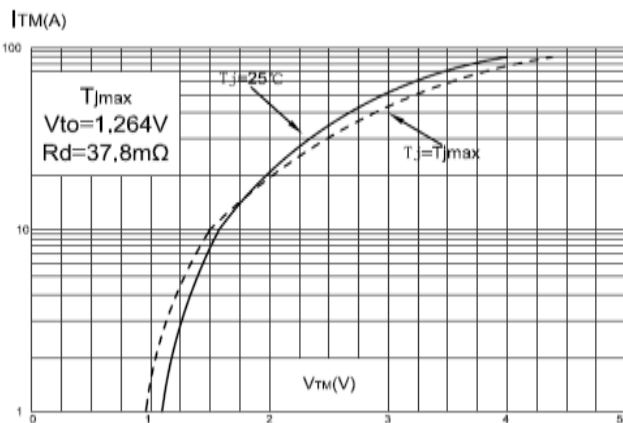


FIG.4:Surge peak on-state current versus number of cycles.

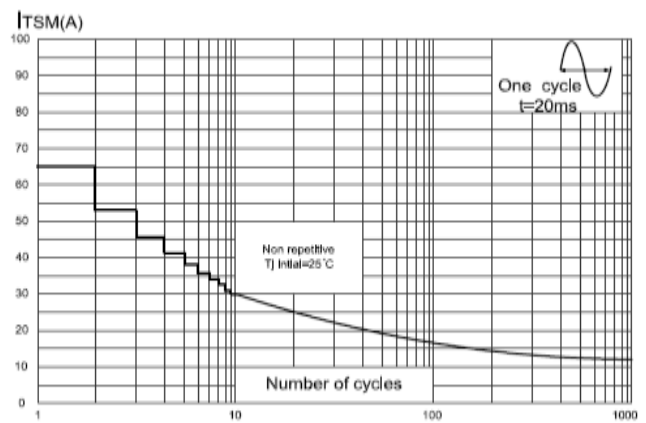


FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponding value of I²t.

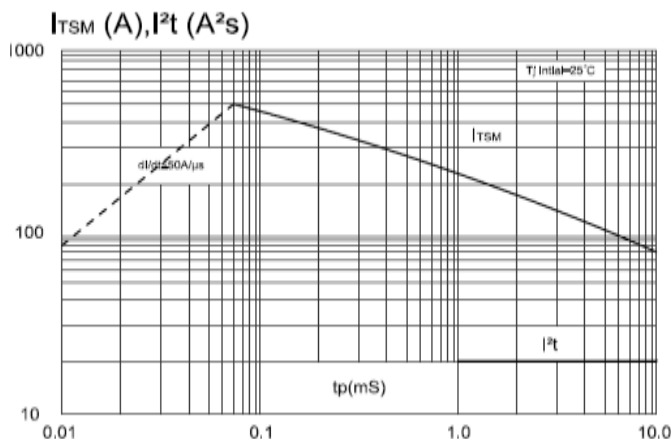


FIG.6:Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)

