



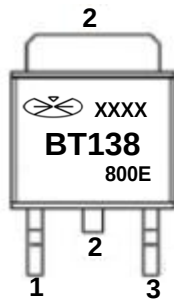
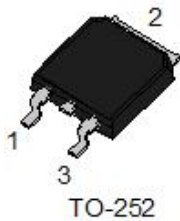
BT138

10A Triac

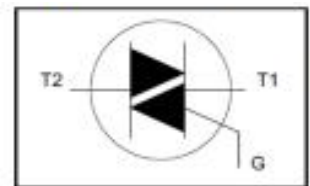
MAIN FEATURES

Symbol	value	unit
$I_{T(RMS)}$	10	A
V_{DRM}/V_{RRM}	600 800	V
I_{TSM}	60	A

Package



PIN1:T1
PIN2:T2
PIN3:G



Package Marking and Ordering Information

Product ID	PACK	Qty (pcs)
BT138	TO-252	2500

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter		Value		Unit
			600E	800E	
V_{DRM}/V_{RRM}	Repetitive peak off-state voltage		600	800	V
$I_{T(RMS)}$	RMS on-state current(full sine wave)		10		A
I_{TSM}	Non repetitive surge peak on-state current(full sine wave, $T_j=25^{\circ}\text{C}$)		60		A
I_{GM}	Peak gate current		4		A
I^2t	I^2t for fusing	$t=10\text{ms}$	18		A^2S
$P_{G(AV)}$	Average gate Power Dissipation	$T_j=125^{\circ}\text{C}$	0.5		W
V_{TM}	Peak on-state voltage drop	$I_{TM}=12\text{A}$	1.5		V
Di/dt	Repetitive rate of rise of on-state current after triggering		100		$\text{A}/\mu\text{s}$
T_j	Junction Temperature		-40 to 125		$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-40 to 150		$^{\circ}\text{C}$
V_{TO}	On state threshold voltage; $T_j=125^{\circ}\text{C}$		0.92		V



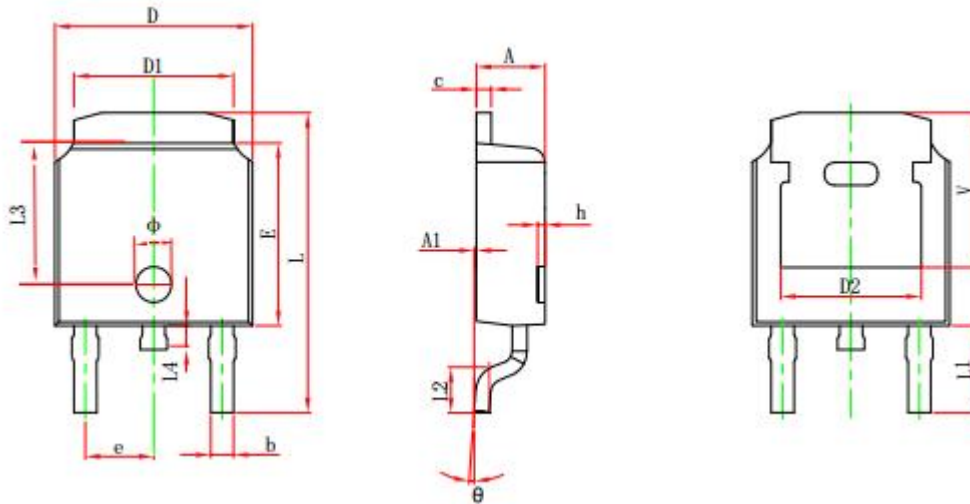
ELECTEICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
IV Quadrant						
Gate trigger current	IGT	VD=12V;RL=100Ω	I II III		50	mA
			IV		100	
Gate trigger voltage	VGT	VD=12V;RL=100Ω	I II III		1.5	V
			IV			
Non-triggering gate voltage	VGD	Tj=125°C	I II III	0.2		V
			IV			
Holding current	IH	IT=0.5A			60	mA
Thyristor holds up current	IL	IG=1.2IGT			60	mA
					100	
Critical rise rate of off-state voltage	dV/dt	VD=67%VDRM(max);Tj=125°C	500			V/μs

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static parameters						
Gate trigger current	IGT	VD=12V;RL=100Ω	I II III		50	mA
			IV		100	
Gate trigger voltage	VGT	VD=12V;RL=100Ω	I II III		1.5	V
			IV			
Non-triggering gate voltage	VGD	Tj=125°C	I II III	0.2		V
			IV			

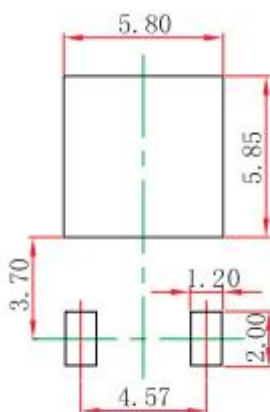


TO-252-2L Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	4.460 REF.		0.1756 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.