

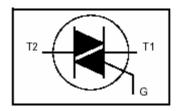
BT139 Series

TRIACS

FEATURE

Glass passivated triacs in a plastic TO220 package. They are intended for use in applications requiring high bidirectional transient and blocking voltage capability and high thermal cycling performance.

Typical applications include motor control, industrial and domestic lighting, heating and static switching. Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value			Unit	
		BT139-500	BT139-600	BT139-800		
V _{DRM}	Repetitive peak off-state voltage	500	600	800	V	
V _{RRM}	Repetitive peak reverse voltage	500	600	800		
I _{T(RMS)}	RMS on-state current	16			А	
I _{TSM}	Non-repetitive peak on-state current	140			А	
P _{GM}	Peak gate power	5			W	
PG _(AV)	Average gate power	0.5			W	
T _{stg}	Storage temperature range	-45 to +150			°C	
T _j	Operating junction temperature	110			°C	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R _{∂j-mb}	Thermal resistance junction to mounting base	≤ 1.2	°C/W
R∂JA	Thermal resistance junction to ambient	≤ 60 C/VV	



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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

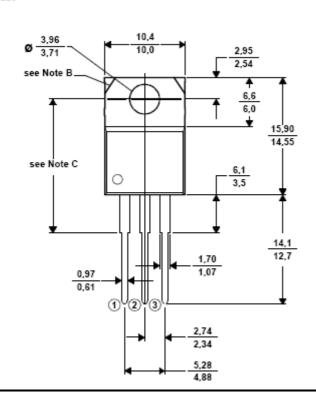
Symbol	Ratings	Test Condition(s)		Min	Тур	Max	Unit
V _{DRM}	Repetitive peak off-state voltage	I _D = 0.1 mA	BT139-500	500	-	-	V
			BT139-600	600	-	-	
			BT139-800	800	-	-	
V _{RRM}	Repetitive peak reverse voltage	I _D = 0.5 mA	BT139-500	500	-	-	
			BT139-600	600	-	-	
			BT139-800	800	-	-	
		V _D = 12 V	T2+ G+	-	-	30	mA
I _{GT}	Gate trigger current	$R_L = 100 \Omega$	T2+ G-	-	-	30	
'GT	Cate trigger current	11/2 - 100 52	T2- G-	-	-	30	
			T2- G+	-	-	100	
		V _D = 12 V	T2+ G+	-	-	1.5	V
V _{GT}	Gate trigger voltage	$R_1 = 100 \Omega$	T2+ G-	-	-	1.5	
	Gate trigger voltage	$R_L = 100.02$	T2- G-	-	-	1.5	
			T2- G+	-	-	1.8	
	Latching current	V _D = 12 V I _{GT} = 100 mA	T2+ G+	-	-	60	mA
IL			T2+ G-	-	-	90	
"L			T2- G-	-	-	60	
			T2- G+	-	-	90	
I _H	Holding current	I _T = 200 mA, I _{GT} = 50 mA		-	-	50	mA
I _D	Off-state leakage current	$V_D = V_{DRM max}$ $T_i = 125^{\circ}C$		-	-	0.5	mA
V _T	On-state voltage	$I_T = 10 \text{ A}$		-	-	1.65	V
dV _D /dt	Critical rate of rise of off-state voltage	V_{DM} = 67% V_{DRMmax} T_j = 125°C Exponential waveform; gate open circuit		100	250	-	V/µs
dV _{COM} /dt	Critical rate of rise of change commutatating current	V_D = 400 V; T_j = 95 °C dI_{com}/dt = 7.2 A/ms I_T = 16 A gate open circuit		-	20	-	V/µs
t _{gt}	Gate controlled turn-on time	$I_{TM} = 20 \text{ A}; V_D = V_{DRMmax}$ $I_G = 0.1 \text{ A}; dI_G/dt = 5 \text{ A/µs}$		-	2	-	μs

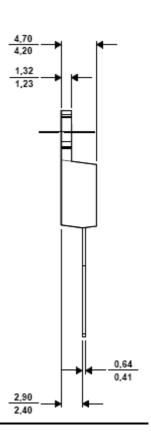


BT139 Series

MECHANICAL DATA CASE TO-220







Pin 1 :	Main Terminal 1
Pin 2 :	Main Terminal 2
Pin 3 :	Gate
Case :	Main Terminal 2

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