

isc Thyristors

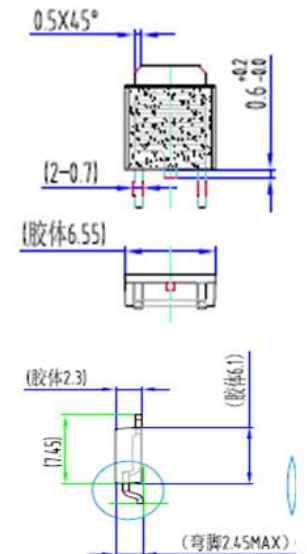
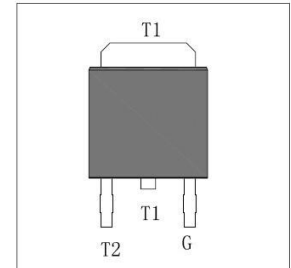
BT151S-500R

APPLICATIONS

Mesa glass passivation technology;
Have high blocking voltage and high temperature stability cleaner;
Electric tools such as motor speed controller;
Solid state relay;
Heating controller (temperature);
Other phase control circuit
Minimum Lot-to-Lot variations for robust device performance and reliable operation

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

SYMBOL	PARAMETER	MIN	UNIT
V_{DRM}	Repetitive peak off-state voltage	500	V
V_{RRM}	Repetitive peak reverse voltage	500	V
$I_{\text{T(AV)}}$	On-state current $T_c=80^{\circ}\text{C}$	7.5	A
I_{TSM}	Surge non-repetitive on-state current $T_P=10\text{ms}$	80	A
$P_{\text{G(AV)}}$	Average gate power	1	W
di/dt	Repetitive rate of rise of on-state current after triggering $T_j=125^{\circ}\text{C}$	50	A/us
I^2t	I^2t for fusing $t = 10 \text{ ms}$	64	A^2S
I_{GM}	Peak gate current $t_p=20\mu\text{s}$, $T_j=125^{\circ}\text{C}$	4	A
T_j	Operating Junction temperature	$-40 \sim +125$	$^{\circ}\text{C}$
T_{stg}	Storage temperature	$-40 \sim +150$	$^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I_{RRM}	Repetitive peak reverse current	$V_{\text{RRM}}=500\text{V}$, $T_j=125^{\circ}\text{C}$			1	mA
		$V_{\text{RRM}}=500\text{V}$, $T_j=25^{\circ}\text{C}$			5	μA
I_{DRM}	Repetitive peak off-state current	$V_{\text{DRM}}=500\text{V}$, $T_j=125^{\circ}\text{C}$			1	mA
		$V_{\text{DRM}}=500\text{V}$, $T_j=25^{\circ}\text{C}$			5	μA
V_{TM}	On-state voltage	$I_{\text{TM}}= 24\text{A}$			1.5	V
I_{GT}	Gate-trigger current	$V_D=12\text{V}$; $R_L=100\Omega$			6	mA
V_{GT}	Gate-trigger voltage	$V_D=12\text{V}$; $R_L=100\Omega$			1.5	V
I_{H}	Holding current	$I_T=0.5\text{A}$			30	mA
I_{L}	Latching current	$I_G=1.2I_{\text{GT}}$		60	100	mA
dv/dt	Critical rate of rise of off-state voltage	$V_D=2/3V_{\text{DRM}}$ $T_j=125^{\circ}\text{C}$	500			V/us
$R_{\text{th(j-c)}}$	Thermal resistance junction to mounting base	in free air		1.75		$^{\circ}\text{C/W}$

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