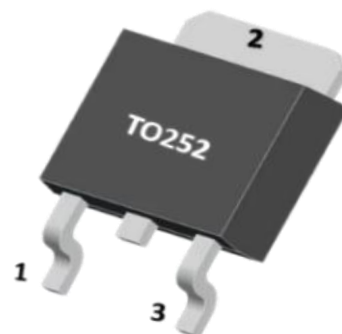


BT134S-800

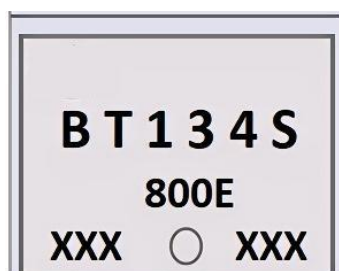
TRIAC

■ GENERAL DESCRIPTION

Glass passivated, sensitive gate triac in a plastic envelope, intended for use in general purpose bidirectional switching and phase control applications, where high sensitivity is required in all four quadrants.



■ MARKING



BT134S=Device Code
800E: $V_{DRM}/V_{RRM}=800V$
XXX=Date Code
Solid Dot=Green molding compound

■ ABSOLUTE MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

SYMBOL	PARAMETER	TEST CONDITION	VALUE	UNIT
V_{DRM}	Repetitive Peak off-state voltage	$T_j=25^{\circ}C$	800	V
$I_{T(RMS)}$	RMS on-state current full sine wave; $T_{mb} \leq 107^{\circ}C$		2	A
I_{TSM}	Non-repetitive peak on-state current (Full sine wave $T_j = 25^{\circ}C$ prior to surge)	$t = 20ms$	25	A
		$t = 16.7ms$	27	A
I^2t	I^2t for fusing	$t=10ms$	0.5	A^2S
di/dt	Repetitive rate of rise of on-state current after triggering $I_{TM} = 6 A$; $I_G = 0.2A$; $dI_G / dt = 0.2A/\mu s$	T2+, G+	50	$A/\mu s$
		T2+, G -	50	$A/\mu s$
		T2-, G -	50	$A/\mu s$
		T2-, G+	10	$A/\mu s$
V_{GM}	Peak gate voltage		5	V
I_{GM}	Peak gate current		4	A
P_{GM}	Peak gate Power		5	W
$P_{G(AV)}$	Average gate Power(over any 20ms period)		0.5	W
T_j	Operating Junction Temperature		125	$^{\circ}C$
T_{stg}	Storage Temperature		-40 to +150	$^{\circ}C$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. The device is guaranteed to meet performance specification within $0^{\circ}C \sim 70^{\circ}C$ operating temperature range and assured by design from $-20^{\circ}C \sim 85^{\circ}C$.
3. Although not recommended, off-state voltages up to 800V may be applied without damage, but the triac may switch to the on-state. The rate of rise of current should not exceed $3A/\mu s$.

BT134S-800

TRIAC

■ THERMAL RESISTANCES

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-252	$R_{\theta JA}$	62.5	$^{\circ}\text{C}/\text{W}$
Junction to Case	TO-252	$R_{\theta JC}$	2.6	$^{\circ}\text{C}/\text{W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Gate trigger current	I_{GT}	T2+ G+	$V_D=12\text{V}$ $R_L=100\Omega$		15	mA
		T2+ G-			15	mA
		T2- G-			15	mA
		T2- G+			35	mA
Latching current	I_L	T2+ G+	$V_D=12\text{V}$, $I_T=0.1\text{A}$		20	mA
		T2+ G-			20	mA
		T2- G-			20	mA
		T2- G+			50	mA
Holding current	I_H	$V_D=12\text{V}$, $I_{GT}=0.5\text{A}$		2.2	20	mA
On-State Voltage	V_T	$I_T=5\text{A}$		1.4	1.7	V
Gate Trigger Voltage	V_{GT}	$V_D=12\text{V}$, $R_L=100\Omega$		0.7	1.5	V
		$V_D=400\text{V}$, $I_T=0.1\text{A}$, $T_J=125^{\circ}\text{C}$	0.25	0.40		
Off-state leakage current	I_D	$V_D=V_{DRM(max)}$, $T_J=125^{\circ}\text{C}$		0.1	0.5	mA

DYNAMIC CHARACTERISTICS($T_J=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Critical Rate of Rise of off-state Voltage	dV_D/dt	$V_{DM}=67\%V_{DRM(max)}$, $T_J=125^{\circ}$ Exponential waveform, Gate open circuit	500			V/ μs
Gate Controlled Turn-on Time	t_{gt}	$I_{TM}=20\text{A}$, $V_D=V_{DRM}$, $I_G=0.1\text{A}$ $dI_G/dt=5\text{A}/\mu\text{s}$		2		μs

■ TYPICAL CHARACTERISTICS (1)

Fig 1. Maximum On-State Dissipation, P_{tot} Versus Rms On-state Current, $I_{T(RMS)}$ where α =conduction angle.

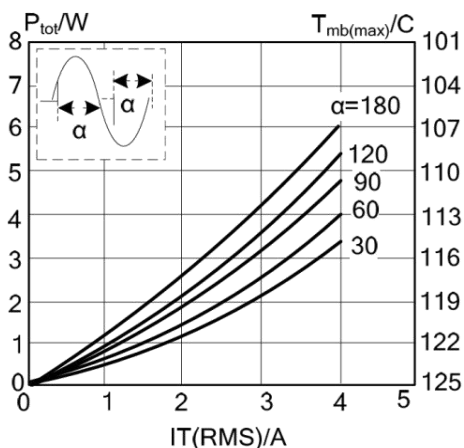


Fig 2. Maximum Permissible Non-repetitive Peak On-state Current, I_{TSM} , Versus Pulse Width t_p For Sinusoidal Currents, $t_p \leq 20ms$

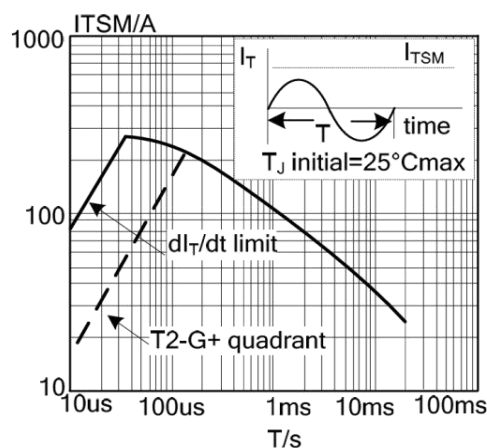


Fig 3. Maximum Permissible Non-repetitive Peak On-state Current, I_{TSM} , Versus Number Of Cycles, For Sinusoidal Currents, $f=50Hz$.

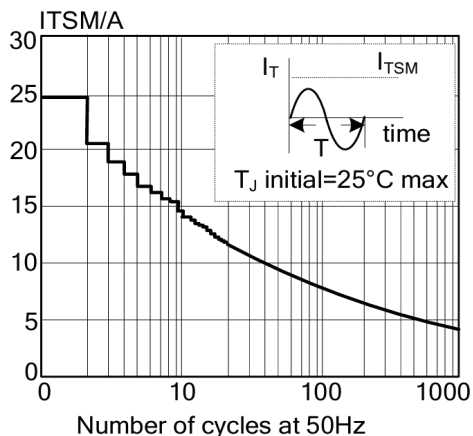


Fig 4. Maximum Permissible Rms Current, $I_{T(RMS)}$ Versus Mounting Base Temperature, T_{mb}

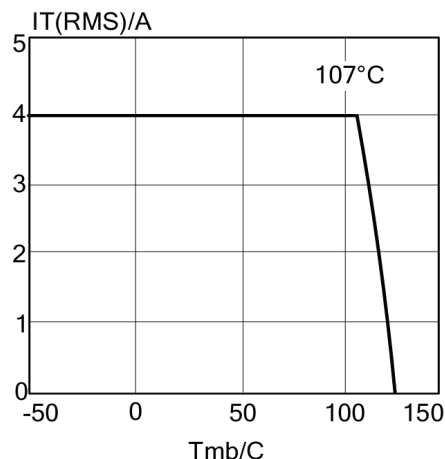


Fig 5. Maximum Permissible Repetitive Rms On-State Current, $I_{T(RMS)}$, Versus Surge Duration, For Sinusoidal Currents, $f=50Hz$, $T_{mb} \leq 107^\circ C$

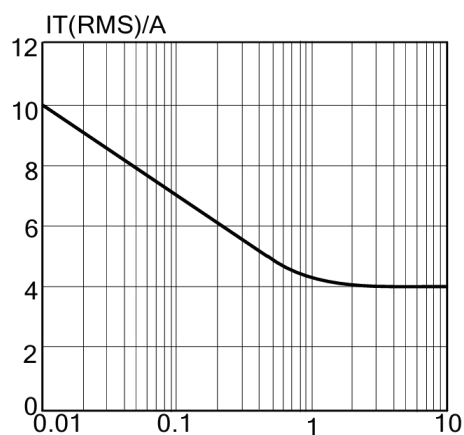
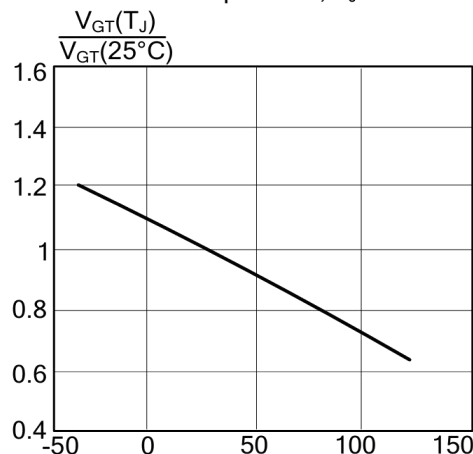


Fig 6. Normalised Gate Trigger Voltage, $V_{GT}(T_J)/V_{GT}(25^\circ C)$, Versus Junction Temperature, T_J



■ TYPICAL CHARACTERISTICS (Con.t)

Fig 7. Normalised Gate Trigger Current, $I_{GT}(T_J)/I_{GT}(25^\circ\text{C})$, Versus Junction Temperature, T_J

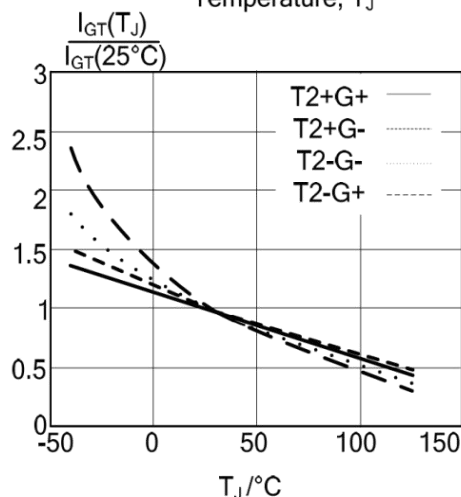


Fig 8. Normalised Latching Current, $I_L(T_J)/I_L(25^\circ\text{C})$ Versus Junction Temperature, T_J

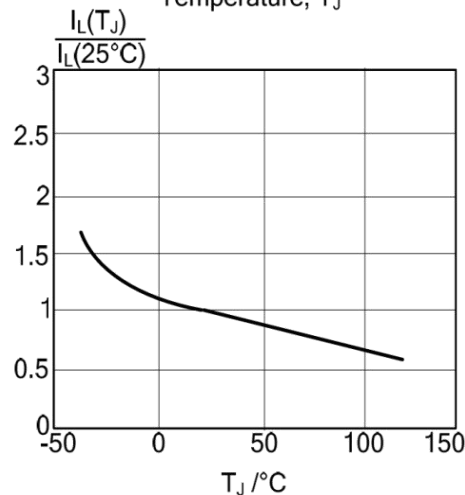


Fig 9. Normalised Holding Current, $I_H(T_J)/I_H(25^\circ\text{C})$, versus junction temperature, T_J

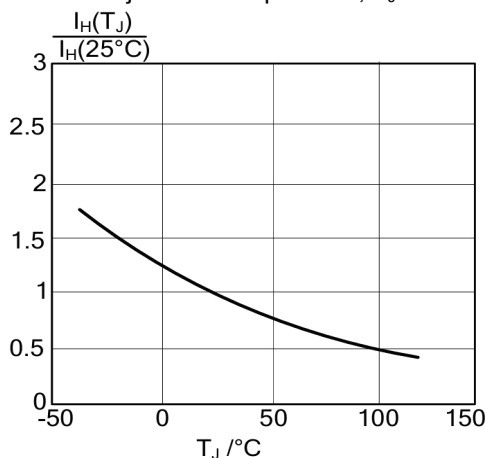


Fig 10. Typical And Maximum On-state Characteristic

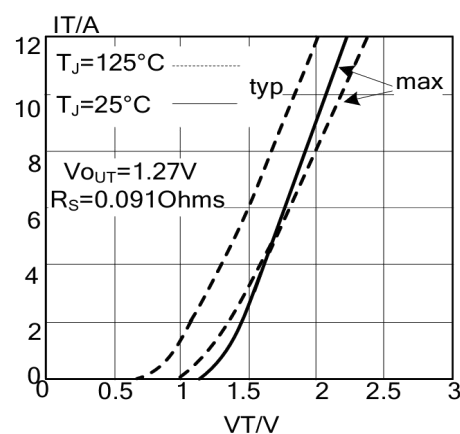


Fig 11. Transient Thermal Impedance Z_{thj-mb} , Versus Pulse Width t_p

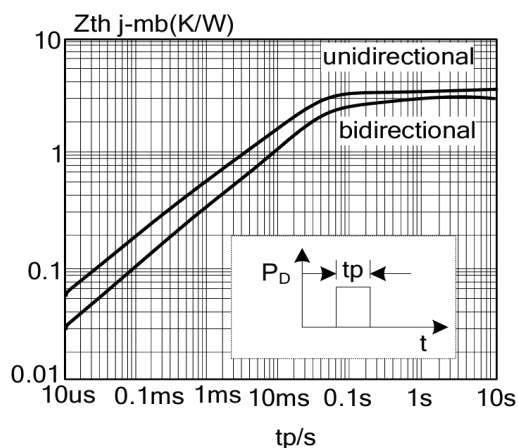
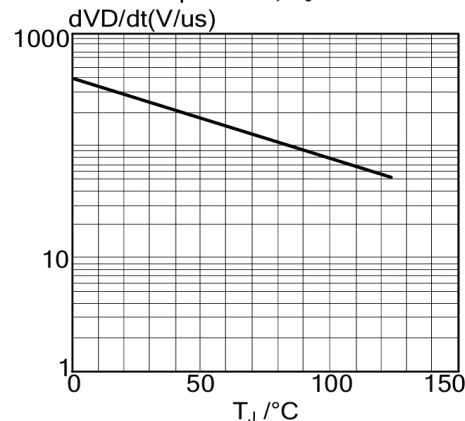
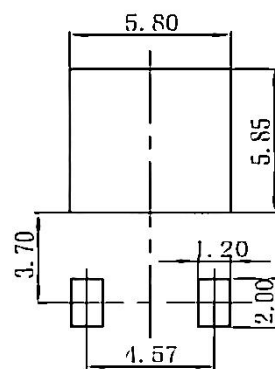


Fig 12. Typical Critical Rate Of Rise Of Off-state Voltage, dV_D/dt Versus Junction Temperature, T_J





TRIAC



3. The pad layout is for reference purposes only.

Package version	Reel dimensions $\phi \times H$ (mm)	Per Reel (pcs)	Reels per box	Inner box dimensions $L \times W \times H$ (mm)	Outer box (pcs)	Outer box dimensions $L \times W \times H$ (mm)
T0-252	$\phi 330 \times 20$	2500	2	360*340*50	25000	375*375*280