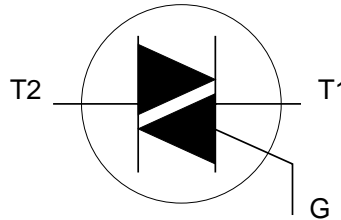


**GENERAL DESCRIPTION**

Glass passivated triacs in a plastic envelope suitable for surface mounting, 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.

**SYMBOL**

**SOT-223**

**QUICK REFERENCE DATA**

SYMBOL	PARAMETER	MAX.	MAX.	MAX.	UNIT
$V_{DRM}$	Repetitive peak off-state voltages	<b>BT134W-500F</b>	<b>500</b>	<b>600</b>	V
		<b>BT134W-600F</b>	<b>500F</b>	<b>600F</b>	
		<b>BT134W-800G</b>	<b>500G</b>	<b>600G</b>	
$I_{T(RMS)}$	RMS on-state current	1	1	1	A
$I_{TSM}$	Non-repetitive peak on-state current	10	10	10	A

**LIMITING VALUES**

Limiting values in accordance with the Absolute Maximum System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.			UNIT
				-500	-600	-800	
$V_{DRM}$	Repetitive peak off-state voltages		-	500 <sup>1</sup>	600 <sup>1</sup>	800	V
$I_{T(RMS)}$	RMS on-state current	full sine wave; $T_{sp} \leq 108^\circ\text{C}$	-	1			A
$I_{TSM}$	Non-repetitive peak on-state current	full sine wave; $T_j = 25^\circ\text{C}$ prior to surge	-	10			A
$I^2t$	$I^2t$ for fusing	$t = 20\text{ ms}$	-	11			A
		$t = 16.7\text{ ms}$	-	10			A
		$t = 10\text{ ms}$	-	0.5			A <sup>2</sup> s
$di_T/dt$	Repetitive rate of rise of on-state current after triggering	$I_{TM} = 1.5\text{ A}; I_G = 0.2\text{ A}; di_G/dt = 0.2\text{ A}/\mu\text{s}$	-	50			A/ $\mu\text{s}$
$I_{GM}$	Peak gate current	T2+ G+	-	50			A/ $\mu\text{s}$
		T2+ G-	-	50			A/ $\mu\text{s}$
		T2- G-	-	50			A/ $\mu\text{s}$
		T2- G+	-	10			A/ $\mu\text{s}$
$V_{GM}$	Peak gate voltage		-	2			A
$P_{GM}$	Peak gate power		-	5			V
$P_{G(AV)}$	Average gate power	over any 20 ms period	-	5			W
$T_{stg}$	Storage temperature		-40	150			W
$T_j$	Operating junction temperature		-	125			°C

<sup>1</sup> 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 3 A/ $\mu\text{s}$ .

**THERMAL RESISTANCES**

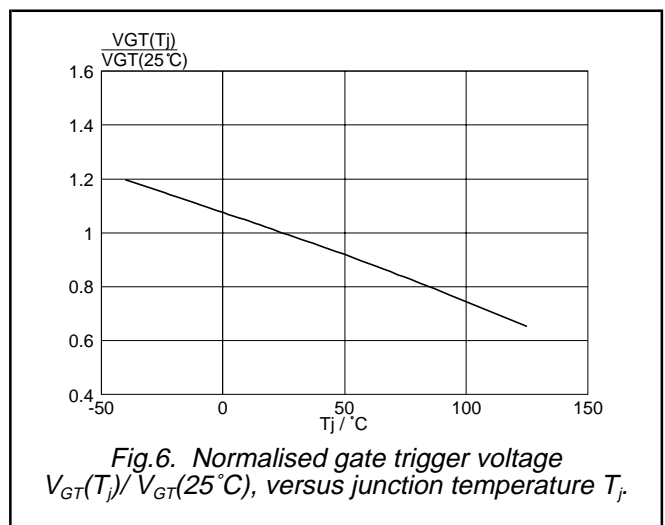
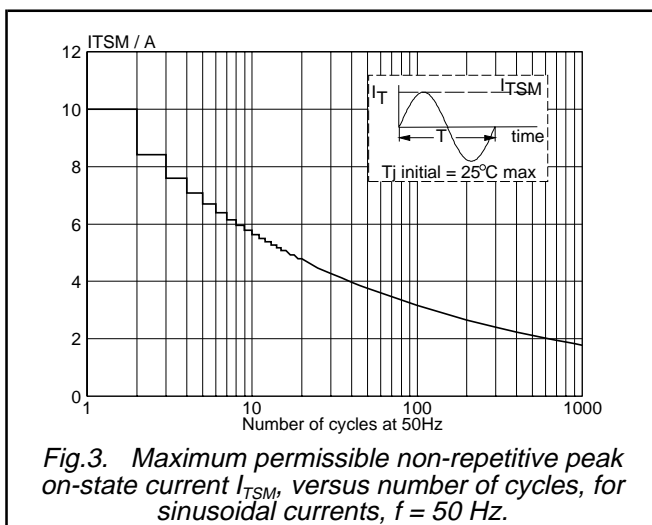
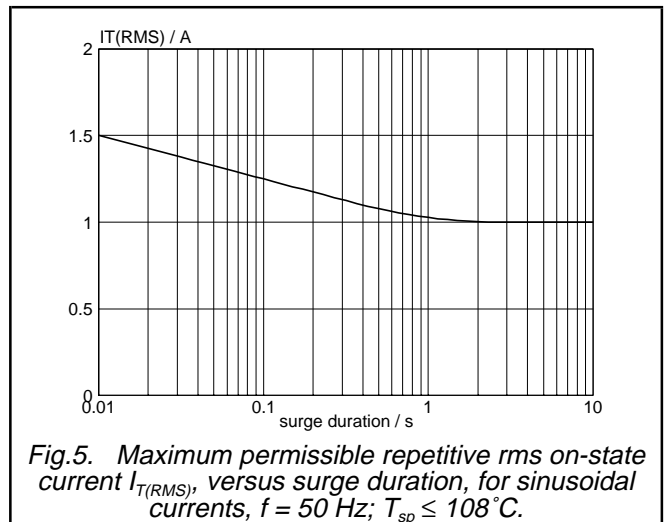
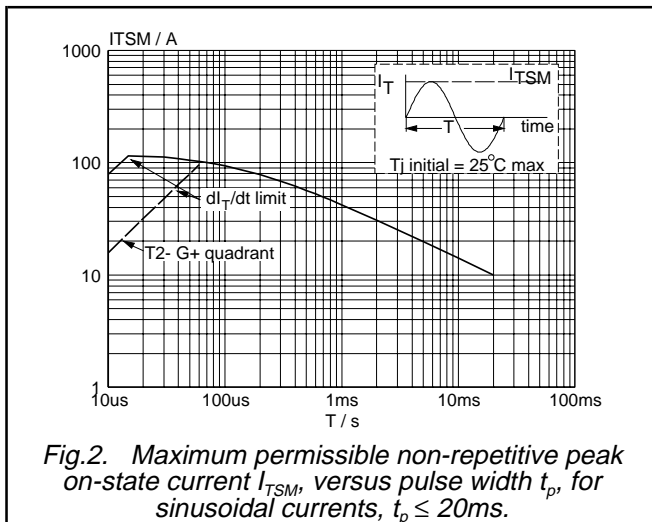
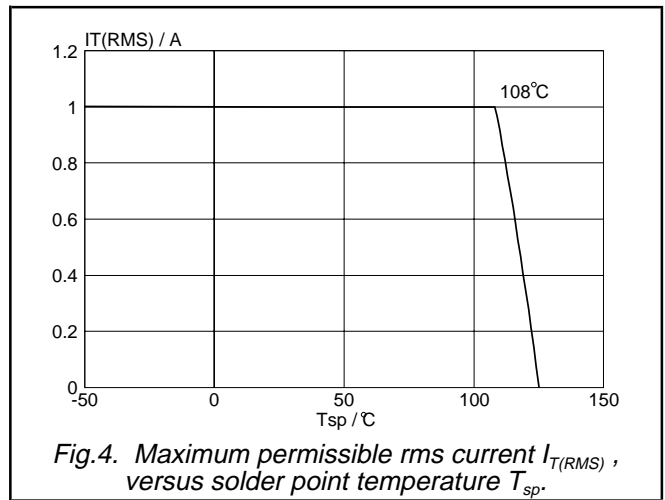
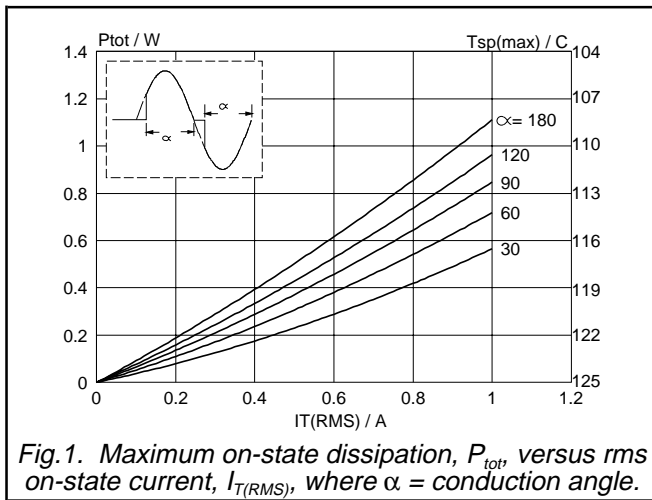
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$R_{th\ j-sp}$	Thermal resistance junction to solder point	full or half cycle	-	-	15	K/W
$R_{th\ j-a}$	Thermal resistance junction to ambient	pcb mounted; minimum footprint pcb mounted; pad area as in fig:14	-	156 70	-	K/W K/W

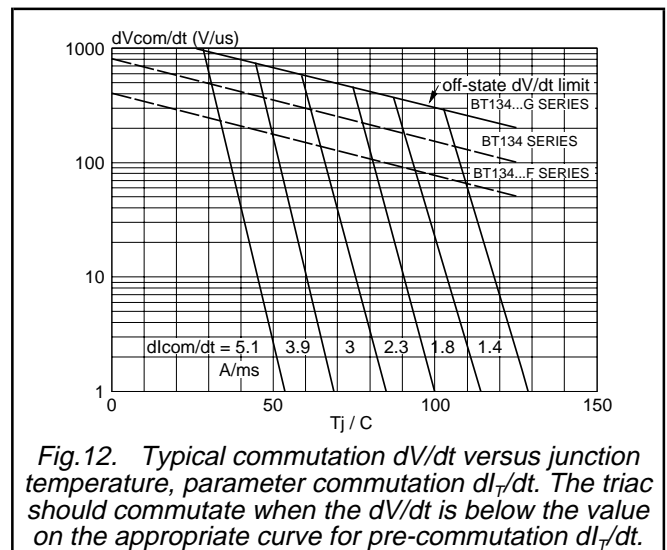
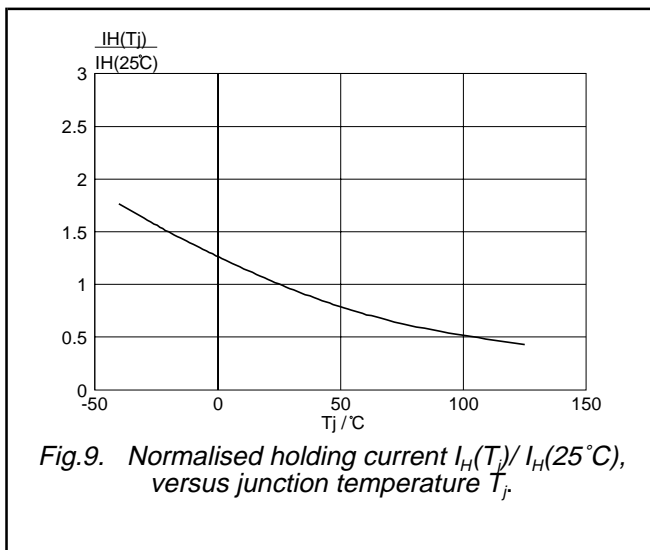
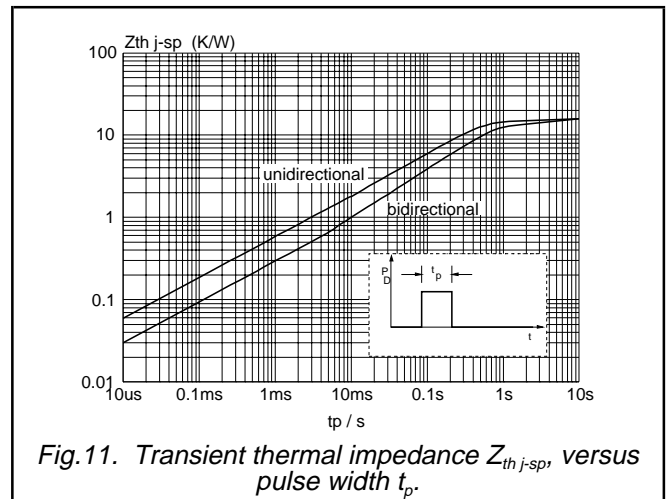
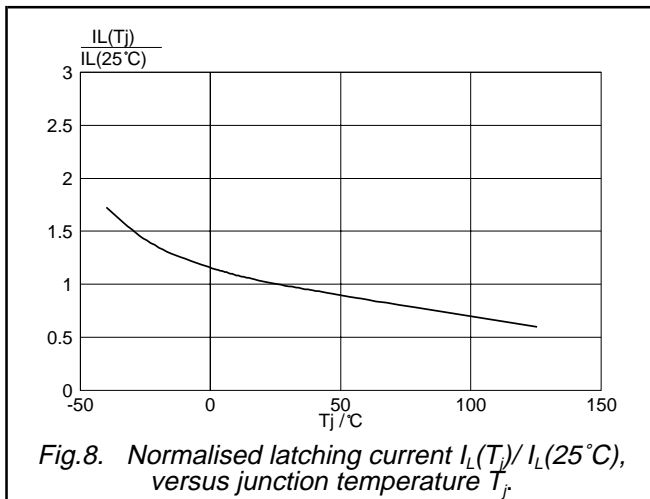
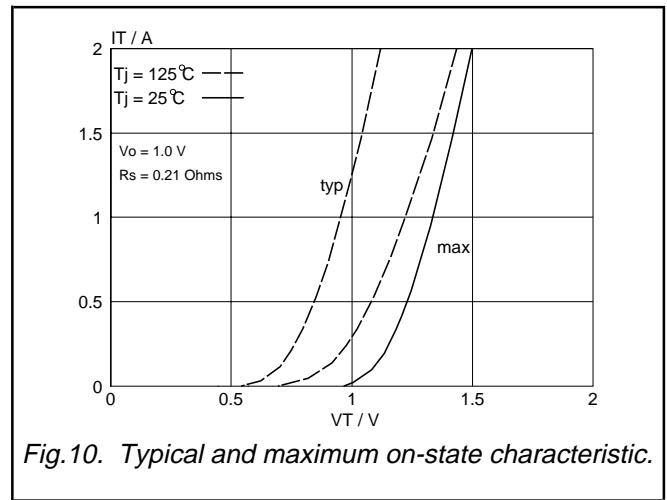
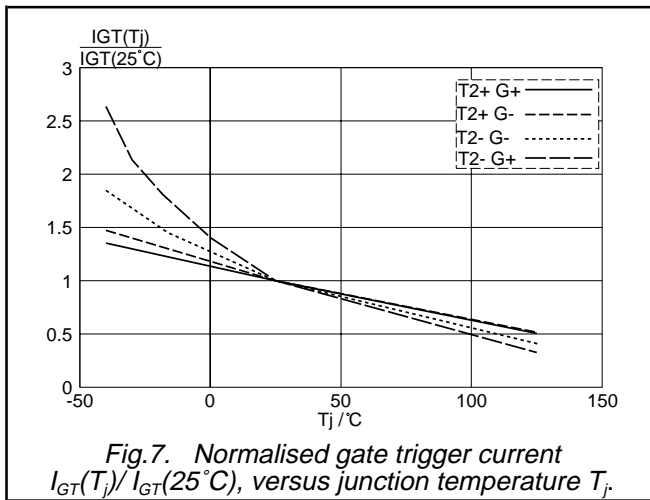
**STATIC CHARACTERISTICS**
 $T_j = 25\text{ }^\circ\text{C}$  unless otherwise stated

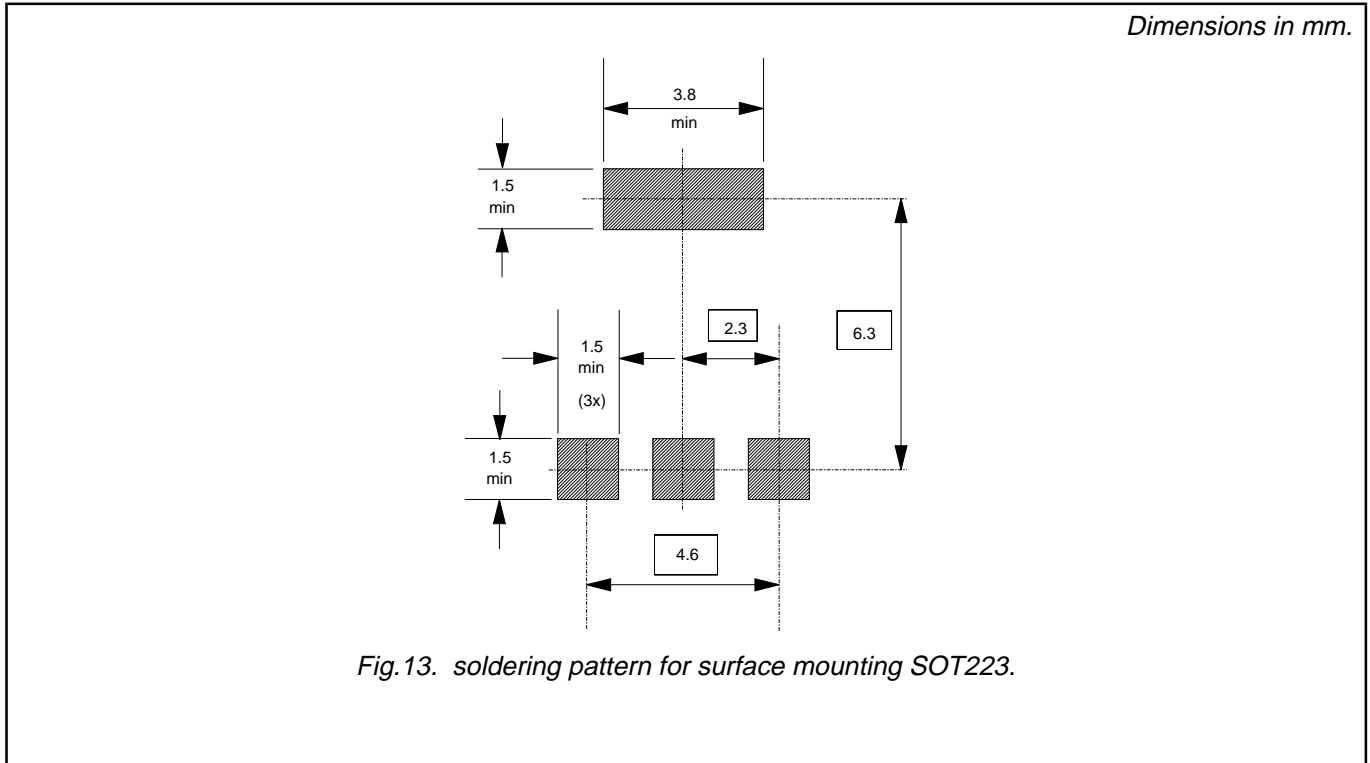
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.			UNIT
$I_{GT}$	Gate trigger current	<b>BT134W-</b> $V_D = 12\text{ V}; I_T = 0.1\text{ A}$	-	-	...	...F	...G	
		T2+ G+	-	5	35	25	50	mA
		T2+ G-	-	8	35	25	50	mA
		T2- G-	-	11	35	25	50	mA
$I_L$	Latching current	$V_D = 12\text{ V}; I_{GT} = 0.1\text{ A}$	-	-	-	-	-	
		T2- G+	-	30	70	70	100	mA
		T2+ G+	-	7	20	20	30	mA
		T2+ G-	-	16	30	30	45	mA
$I_H$	Holding current	$V_D = 12\text{ V}; I_{GT} = 0.1\text{ A}$	-	-	-	-	-	
		T2- G-	-	5	20	20	30	mA
		T2- G+	-	7	30	30	45	mA
			-	5	15	15	30	mA
$V_T$	On-state voltage	$I_T = 2\text{ A}$	-	1.2	1.50			V
$V_{GT}$	Gate trigger voltage	$V_D = 12\text{ V}; I_T = 0.1\text{ A}$	-	0.7	1.5			V
		$V_D = 400\text{ V}; I_T = 0.1\text{ A};$ $T_j = 125\text{ }^\circ\text{C}$	0.25	0.4	-			V
$I_D$	Off-state leakage current	$V_D = V_{DRM(max)};$ $T_j = 125\text{ }^\circ\text{C}$	-	0.1	0.5			mA

**DYNAMIC CHARACTERISTICS**
 $T_j = 25\text{ }^\circ\text{C}$  unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN.			TYP.	MAX.	UNIT
$dV_D/dt$	Critical rate of rise of off-state voltage	<b>BT134W-</b> $V_{DM} = 67\% V_{DRM(max)};$ $T_j = 125\text{ }^\circ\text{C};$ exponential waveform; gate open circuit	...	...F	...G	250	-	V/ $\mu\text{s}$
$dV_{com}/dt$	Critical rate of change of commutating voltage	$V_{DM} = 400\text{ V}; T_j = 95\text{ }^\circ\text{C};$ $I_{T(RMS)} = 1\text{ A};$ $dl_{com}/dt = 1.8\text{ A/ms};$ gate open circuit	-	-	10	50	-	V/ $\mu\text{s}$
$t_{gt}$	Gate controlled turn-on time	$I_{TM} = 1.5\text{ A};$ $V_D = V_{DRM(max)};$ $I_G = 0.1\text{ A};$ $dl_G/dt = 5\text{ A}/\mu\text{s};$	-	-	-	2	-	$\mu\text{s}$





**MOUNTING INSTRUCTIONS**

**PRINTED CIRCUIT BOARD**
