

Triac

BT134W series

GENERAL DESCRIPTION

Glass passivated triacs in SOT223 envelopes suitable for surface mounting. They are intended for general purpose switching and phase control applications.

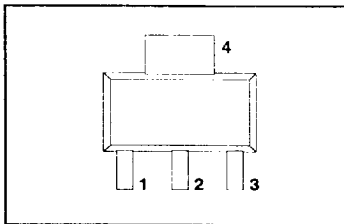
QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	MAX.	MAX.	MAX.	UNIT
	BT134W-	500	600	700¹	800¹	
V_{DRM}	Repetitive peak voltages	500	600	700	800	V
$I_{T(RMS)}$	R.M.S. on-state current	1	1	1	1	A
I_{TSM}	Non-repetitive on-state current	10	10	10	10	A

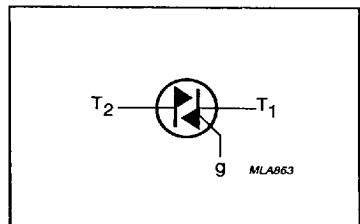
PINNING - SOT223

PIN	DESCRIPTION
1	main terminal 1
2	main terminal 2
3	gate
4	main terminal 2 (tab)

PIN CONFIGURATION



SYMBOL



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.				UNIT
V_{DSM}	Voltages (in either direction) Non-repetitive peak off-state voltage.	$t \leq 10$ ms	-	-500 500	-600 600	-700¹ 700	-800¹ 800	V
V_{DRM}	Repetitive peak off-state voltage	$\delta \leq 0.01$	-	500	600	700	800	V
V_{DWM}	Crest working off-state voltage		-	400	400	400	400	V
$I_{T(RMS)}$	Currents (in either direction) R.M.S. on-state current	Conduction angle = 360°; $T_b = 77$ °C	-	1				A
I_{TRM}	Repetitive peak on-state current		-	10				A
I_{TSM}	Non-repetitive peak on-state current	$t = 20$ ms; full sine-wave; $T_j = 120$ °C prior to surge.	-	10				A
I^2t	I^2t for fusing	$t = 10$ ms	-	0.5				A ² s
dI_T/dt	Rate of rise of on-state current after triggering	$I_G = 200$ mA to $I_T = 1.5$ A; $dI_G/dt = 0.2$ A/ μ s	-	10				A/ μ s
$P_{G(AV)}$	Power dissipation Average power dissipation	over any 20 ms period	-	0.13				W
P_{GM}	Peak power dissipation		-	1.3				W
T_{stg}	Temperatures Storage temperature		- 40	125				°C
T_j	Junction temperature	Full-cycle operation	-	120				°C
T_j	Junction temperature	Half-cycle operation	-	110				°C

¹ These voltage grades not available for D and E type gate selections. (See next page for details of gate selections)

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THERMAL RESISTANCES

From junction to board	P.c.b. mounted (see fig 2), temperature measured 1 - 3 mm from tab.	$R_{th\ j-b} = 30\text{ K/W}$
From junction to ambient	P.c.b. mounted (see fig 2)	$R_{th\ j-a} = 70\text{ K/W}$

CHARACTERISTICS

$T_{mb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_T	Voltages and Currents (in either direction) On-state voltage	$I_T = 1.5\text{ A}$	-	1.2	1.7	V
dV_D/dt	Rate of rise of off-state voltage (exponential method)	$T_j = 120\text{ }^{\circ}\text{C}$; $V_D = V_{DWM\max}$; gate open circuit BT134W-500 to 800 BT134W-500E/600E BT134W-500D/600D ²	100 - -	- 30 5	- - -	V/ μs V/ μs V/ μs
dV_{com}/dt	Rate of change of commutating voltage	$-di_{com}/dt = 1.8\text{ A/ms}$; $I_{T(RMS)} = 1\text{ A}$; $T_j = 50\text{ }^{\circ}\text{C}$; gate open circuit; $V_D = V_{DWM\max}$ BT134W-500 to 800 BT134W-500E/600E BT134W-500D/600D	10	- Not applicable Not applicable	- - -	V/ μs
I_D	Off-state current	$V_D = V_{DWM\max}$; $T_j = 120\text{ }^{\circ}\text{C}$	-	-	0.5	mA
V_{GT}	Gate trigger voltage	$V_D = 12\text{ V}$ $V_D = 12\text{ V}$; $T_j = -40\text{ }^{\circ}\text{C}$ $V_D = V_{DWM\max}$; $T_j = 120\text{ }^{\circ}\text{C}$	- - 0.25	- - -	1.5 2.3 -	V V
I_{GT}	Gate trigger current	G to T1; $V_D = 12\text{ V}$	-	-	Table 1	mA
I_H	Holding current		-	-	Table 1	mA
I_L	Latching current		-	-	Table 1	mA

Table 1: Gate Characteristics - Maximum Values

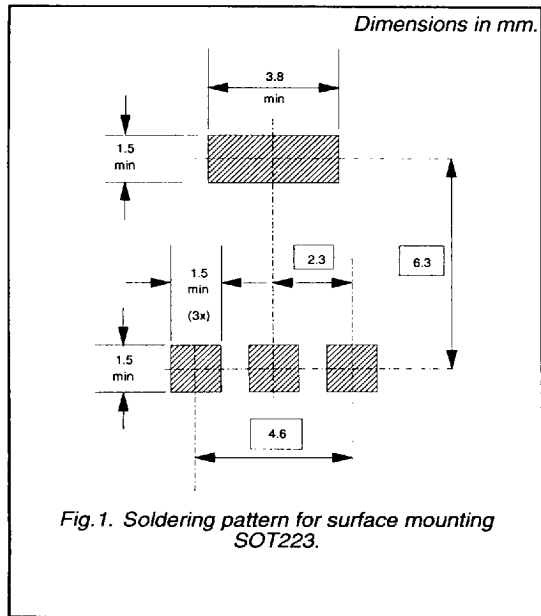
		T2+ G+	T2+ G-	T2- G-	T2- G+	UNIT
BT134W - 500/600/700/800	I_{GT}	35	35	35	70	mA
	I_H	15	15	15	15	mA
	I_L	20	30	20	30	mA
BT134W - 500E/600E	I_{GT}	10	10	10	25	mA
	I_H	15	15	15	15	mA
	I_L	15	20	15	20	mA
BT134W - 500D/600D	I_{GT}	5	5	5	10	mA
	I_H	10	10	10	10	mA
	I_L	10	15	10	15	mA

² With $R_{G-MT1} = 1\text{ k}\Omega$

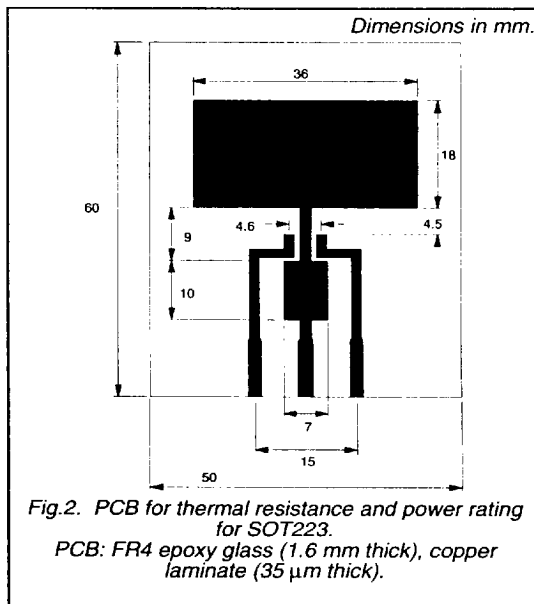
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MOUNTING INSTRUCTIONS

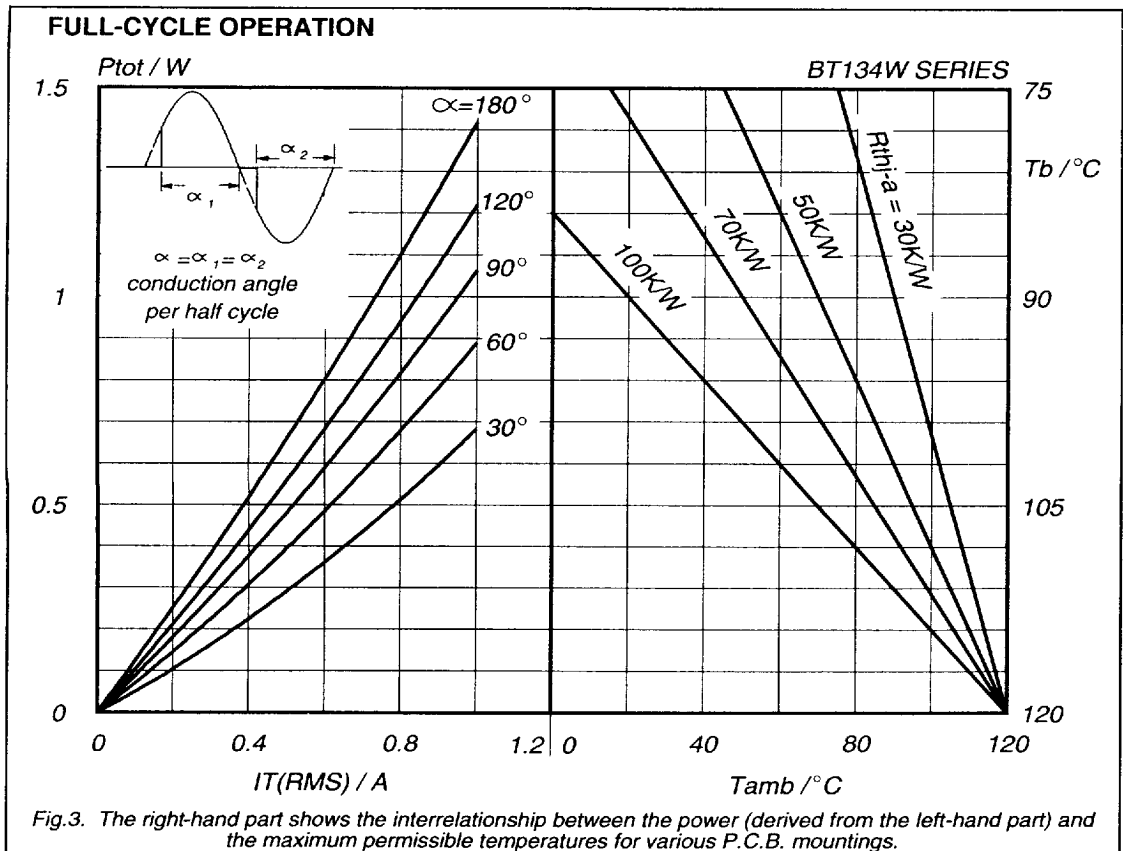


PRINTED CIRCUIT BOARD



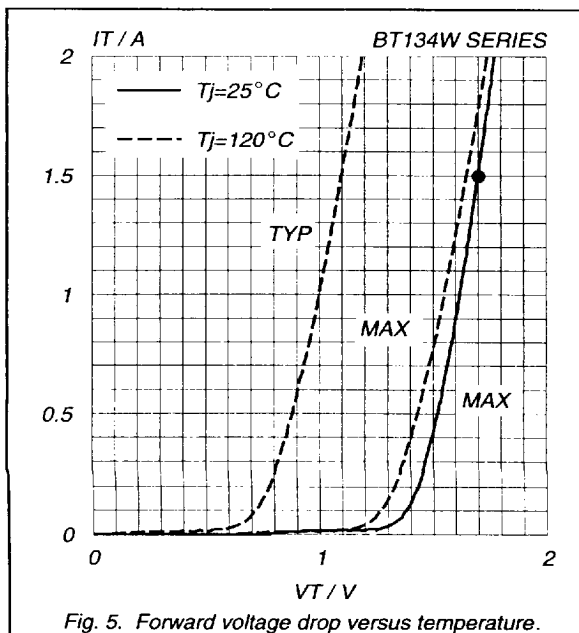
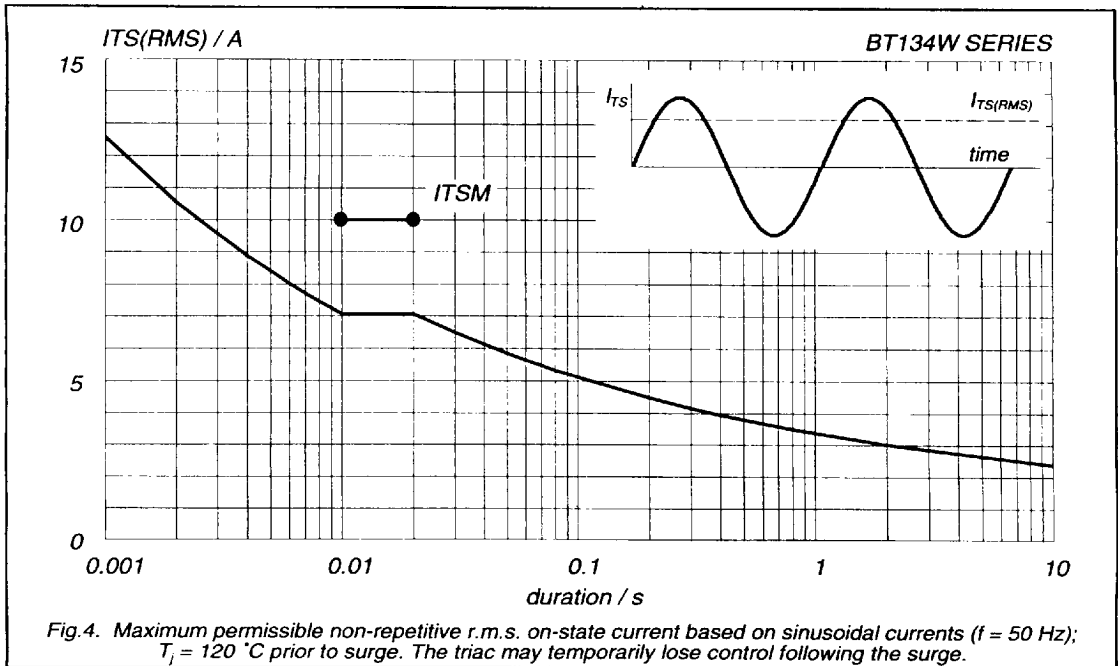
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