

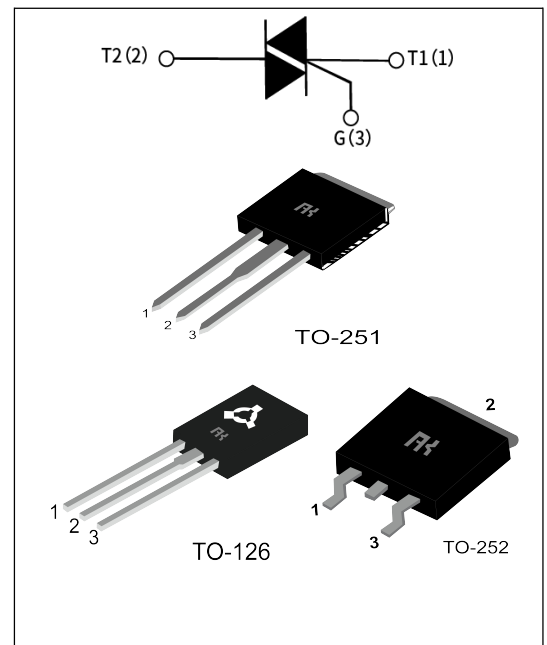
## BT134 Serial Standard TRIACS

### GENERAL DESCRIPTION:

BT134 series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.

### Main Features:

$I_{T(RMS)}$	$V_{DRM}/V_{RRM}$	$V_{TM}$
4 A	600V and 800 V	$\leq 1.7V$



### Absolute Ratings(limiting values) :

Symbol	Parameter	Value	Unit	
$T_{stg}$	Storage junction temperature range	- 40 to + 150	$^{\circ}C$	
$T_j$	Operating junction temperature range	- 40 to + 125	$^{\circ}C$	
$I_{T(RMS)}$	RMS on-state current	TO-126 ( $T_C=107^{\circ}C$ )	4	A
		TO-251 / TO-252 ( $T_C=110^{\circ}C$ )		
$I_{TSM}$	Non repetitive surge peak on-state current (full cycle, $F=50Hz$ )	25	A	
$V_{DRM}$	Repetitive peak off-state voltage( $T_j=25^{\circ}C$ )	600 and 800	V	
$V_{RRM}$	Repetitive peak reverse voltage( $T_j=25^{\circ}C$ )	600 and 800	V	
$V_{DSM}$	Non repetitive surge peak Off-state voltage	$V_{DRM} + 100$	V	
$V_{RSM}$	Non repetitive peak reverse voltage	$V_{RRM} + 100$	V	
$I^2t$	$I^2t$ value for fusing $t_p = 10$ ms	3.1	$A^2s$	
$dI/dt$	Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	50	$A/\mu s$	
$I_{GM}$	Peak gate current	2	A	

$P_{G(AV)}$	Average gate power dissipation	0.5	W
$P_{GM}$	Peak gate power	5	W

**Electrical Characteristics** ( $T_j=25^\circ\text{C}$  unless otherwise specified) :

● **SNUBBERLESS(3 Quadrants)**

Symbol	Test Condition	Quadrant	Range	Value	Unit
				EW	
$I_{GT}$	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	MAX	10	mA
$V_{GT}$		I-II-III	MAX	1.5	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=125^\circ\text{C}$ $R_L=3.3\text{k}\Omega$	I-II-III	MIN	0.2	V
$I_L$	$I_G=1.2 I_{GT}$	I-III	TYP	20	mA
		II		35	
$I_H$	$I_T=100\text{mA}$		MAX	20	mA
$dV/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	50	V/ $\mu\text{s}$
$(dV/dt)_c$	$(dI/dt)_c=1.1\text{A/ms}$ $T_j=125^\circ\text{C}$		MIN	5	V/ $\mu\text{s}$

● **STANDARD(4 Quadrants)**

Symbol	Test Condition	Quadrant	Range	Value	Unit
				E	
$I_{GT}$	$V_D=12\text{V}$ $R_L=33\Omega$	I-II-III	MAX	10	mA
		IV	MAX	25	
$V_{GT}$		I-II-III-IV	MAX	1.5	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=125^\circ\text{C}$ $R_L=3.3\text{k}\Omega$	I-II-III-IV	MIN	0.2	V

<b>I<sub>L</sub></b>	I <sub>G</sub> =1.2 I <sub>GT</sub>	I-III-IV	TYP	20	mA
		II		35	
<b>I<sub>H</sub></b>	IT= 100mA		MAX	20	mA
<b>dV/dt</b>	V <sub>D</sub> =2/3V <sub>DRM</sub> Gate Open T <sub>j</sub> =125°C		MIN	50	V/μs
<b>(dV/dt)<sub>c</sub></b>	(dI/dt) <sub>c</sub> =1.1A/ms T <sub>j</sub> =125°C		MIN	5	V/μs

### STATIC CHARACTERISTICS

Symbol	Parameter			Value(MAX)	Unit
<b>V<sub>TM</sub></b>	I <sub>TM</sub> = 5A tp= 380μs	T <sub>j</sub> =25°C	MAX	1.7	V
<b>I<sub>DRM</sub></b> <b>I<sub>RRM</sub></b>	V <sub>D</sub> =V <sub>DRM</sub> , V <sub>R</sub> =V <sub>RRM</sub>	T <sub>j</sub> =25°C	MAX	5	μ A
		T <sub>j</sub> =125°C		1	mA

### Thermal Resistances :

Symbol	Parameter		Value	Unit
<b>R<sub>th(j-c)</sub></b>	junction to case(AC)	TO-251/TO-252	3.7	°C/W
		TO-126	4.1	

Fig.1: Maximum power dissipation versus RMS on-state current

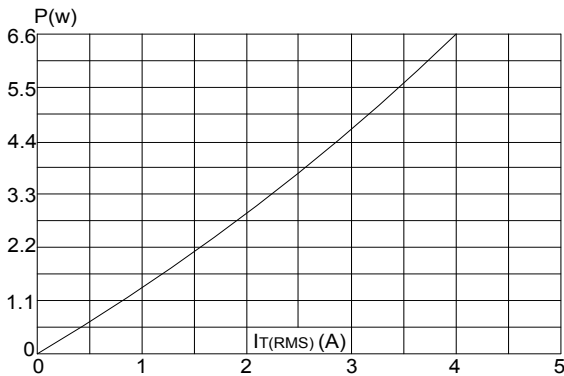


Fig.2 : RMS on-state current versus case temperature

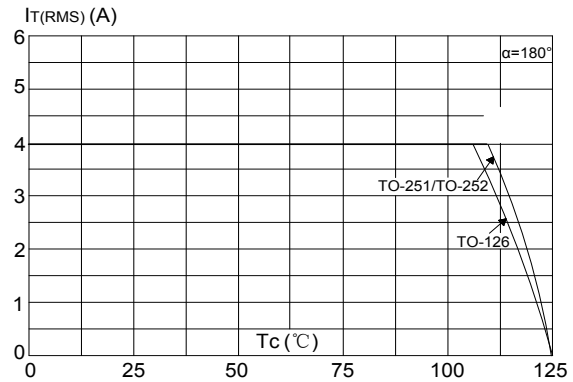


Fig.3 : Surge peak on-state current versus number of cycles

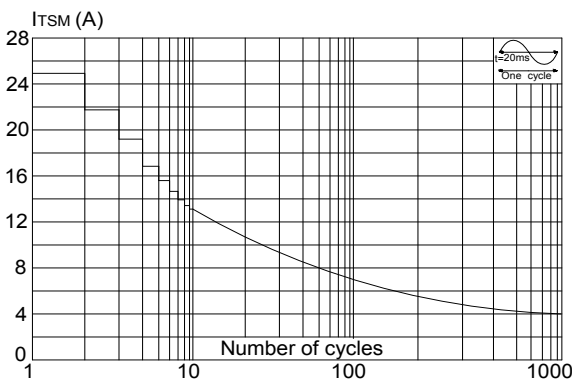


Fig.4 : On-state characteristics (maximum values)

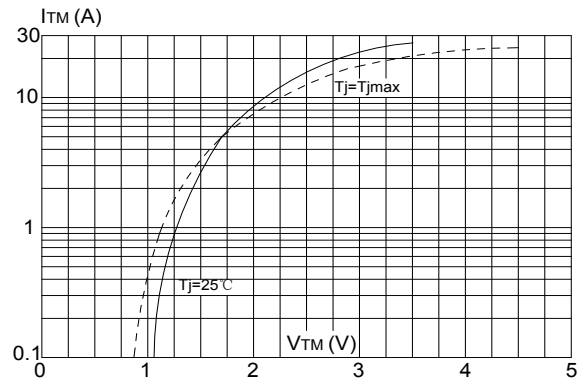


Fig.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2 t$  I - II -III:  $dI/dt < 50\text{A}/\mu\text{s}$ ; IV:  $dI/dt < 10\text{A}/\mu\text{s}$

Fig.6: Relative variations of gate trigger current versus junction temperature

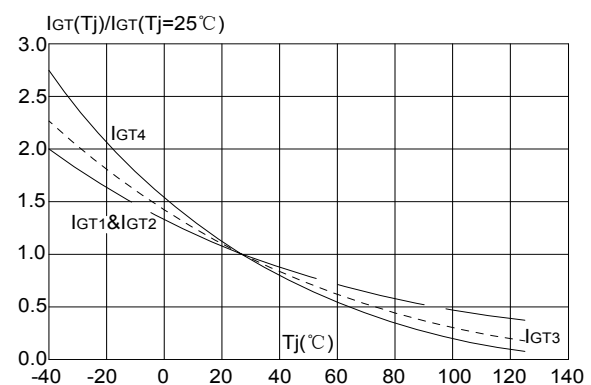
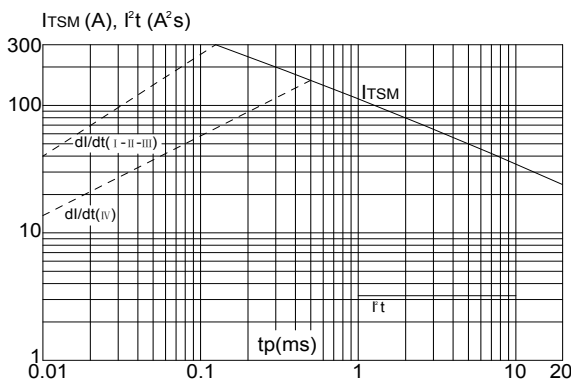


FIG.7: Relative variations of holding current Versus junction temperature

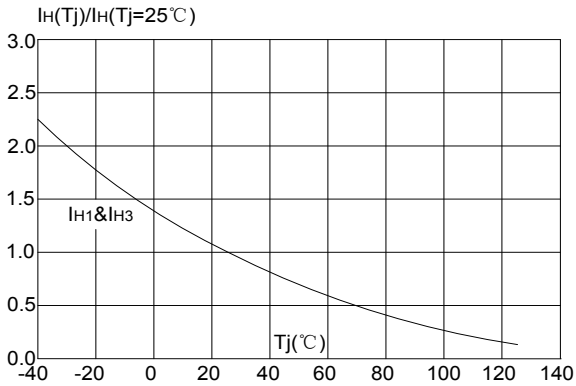
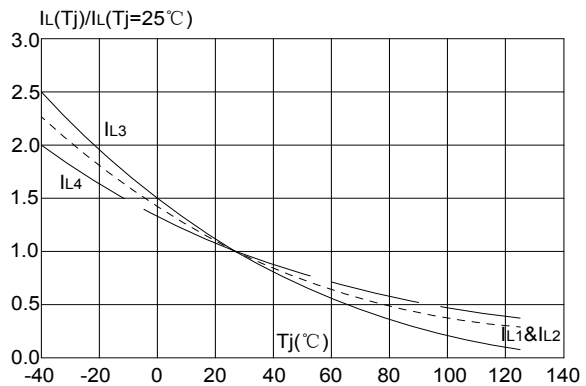


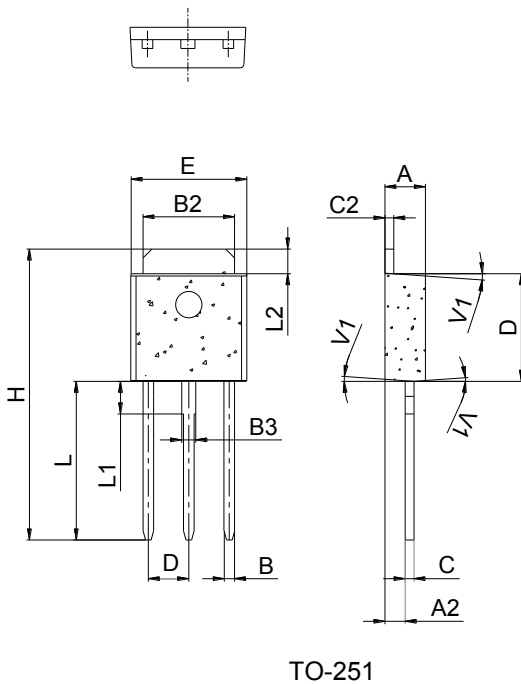
FIG.8: Relative variations of latching current versus junction temperature



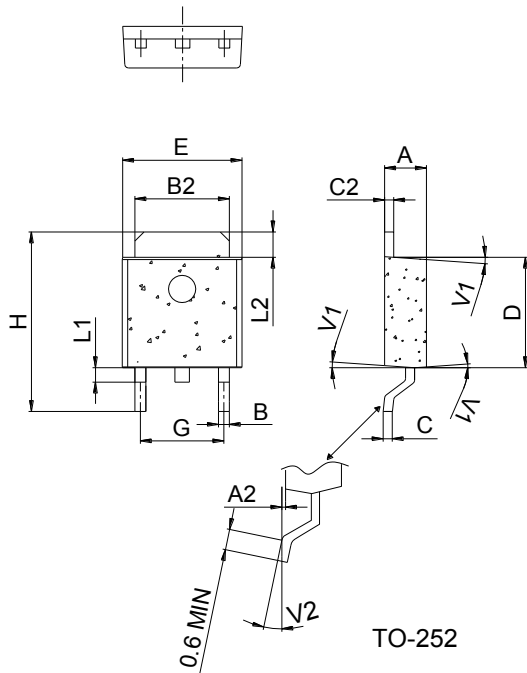
**Ordering Information:**

<p><b>BT 134 - 600 E</b></p> <p>TRIAC SERIES</p> <p><math>I_{T(RMS)}:4A</math></p>	<p><b>E:</b> IGT<sub>1-3</sub> ≤ 10mA STANDARD</p> <p><b>EW:</b> IGT<sub>1-3</sub> ≤ 10mA SNUBBERLESS</p> <p><b>600:</b> <math>V_{DRM}/V_{RRM} ≥ 600</math></p> <p><b>800:</b> <math>V_{DRM}/V_{RRM} ≥ 800</math></p>
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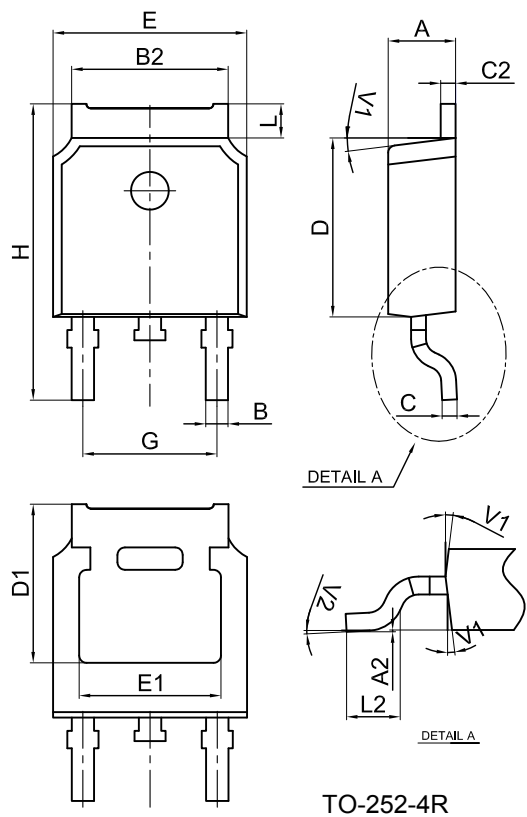
**Package Mechanical Data :**



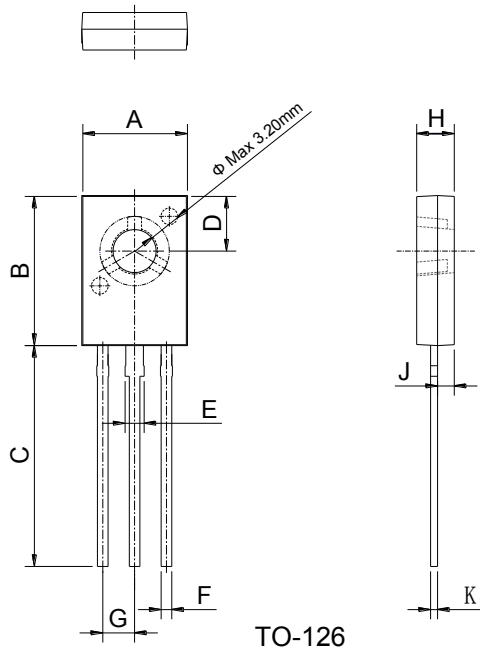
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		1.90	0.071		0.075
L2	1.37		1.50	0.054		0.059
V1		4°			4°	



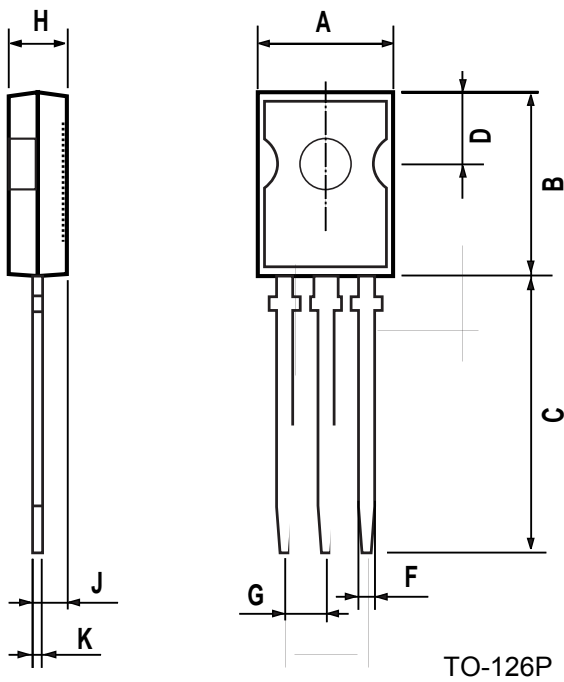
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.6	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
V1		4°			4°	
V2	0°		8°	0°		8°



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.40		7.80	0.291		0.307
B	10.6		11.2	0.417		0.441
C	15.3		16.3	0.602		0.642
D	3.90		4.10	0.154		0.161
E	1.17		1.47	0.046		0.058
F	0.66		0.86	0.026		0.034
G		2.29			0.090	
H	2.50		2.90	0.098		0.114
J	1.10		1.50	0.043		0.059
K	0.45		0.60	0.018		0.024



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.40		7.80	0.291		0.307
B	10.5		10.8	0.413		0.444
C	15.4		16.0	0.606		0.629
D		3.80			0.150	0.161
F	0.70		0.90	0.028		0.030
G		2.2			0.087	
H	2.40		2.70	0.094		0.106
J	1.00		1.30	0.039		0.050
K	0.49		0.75	0.019		0.030