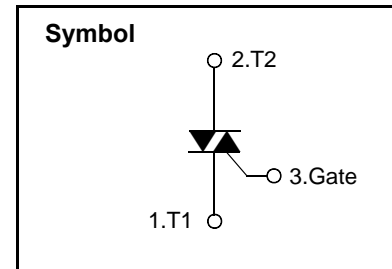


## Bi-Directional Triode Thyristor

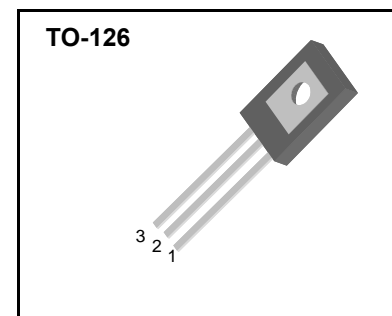
### Features

- ◆ Repetitive Peak Off-State Voltage : 600V
- ◆ R.M.S On-State Current (  $I_{T(RMS)} = 4\text{ A}$  )
- ◆ High Commutation  $dv/dt$



### General Description

This device is suitable for low power AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay.



### Absolute Maximum Ratings ( $T_J = 25^\circ\text{C}$ unless otherwise specified )

Symbol	Parameter	Condition	Ratings	Units
$V_{DRM}$	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_C = 104^\circ\text{C}$	4	A
$I_{TSM}$	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	25/27	A
$I^2t$	$i^2t$	$t = 10\text{ms}$	3.1	$\text{A}^2\text{s}$
$P_{GM}$	Peak Gate Power Dissipation		5	W
$P_{G(AV)}$	Average Gate Power Dissipation	Over any 20ms period	0.5	W
$I_{GM}$	Peak Gate Current		2	A
$V_{GM}$	Peak Gate Voltage		5	V
$T_J$	Operating Junction Temperature		- 40 ~ 125	$^\circ\text{C}$
$T_{STG}$	Storage Temperature		- 40 ~ 150	$^\circ\text{C}$

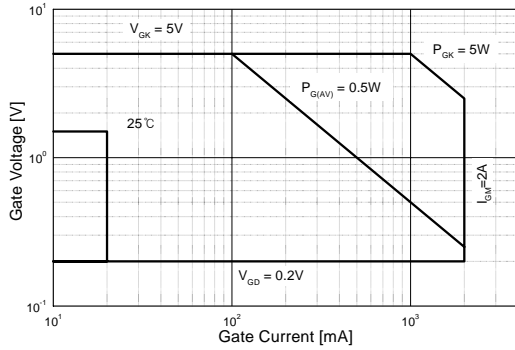
# BT134-F

## Electrical Characteristics

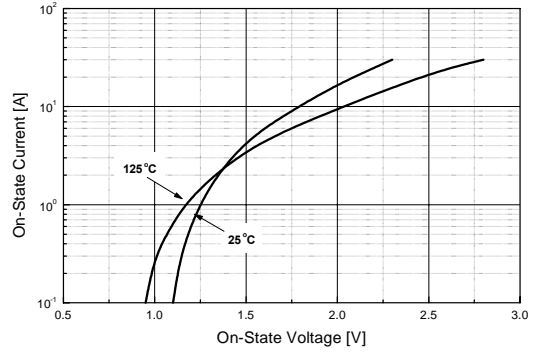
Symbol	Items		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current		$V_D = V_{DRM}$ , Single Phase, Half Wave $T_J = 125\text{ }^\circ\text{C}$	—	—	0.5	mA
$V_{TM}$	Peak On-State Voltage		$I_T = 5\text{ A}$ , Inst. Measurement	—	—	1.7	V
$I_{GT1}^+$	I	Gate Trigger Current	$V_D = 6\text{ V}$ , $R_L = 10\text{ }\Omega$	—	—	25	mA
$I_{GT1}^-$	II			—	—	25	
$I_{GT3}^-$	III			—	—	25	
$I_{GT3}^+$	IV			—	—	70	
$V_{GT1}^+$	I	Gate Trigger Voltage	$V_D = 6\text{ V}$ , $R_L = 10\text{ }\Omega$	—	—	1.5	V
$V_{GT1}^-$	II			—	—	1.5	
$V_{GT3}^-$	III			—	—	1.5	
$V_{GT3}^+$	IV			—	—	2.5	
$V_{GD}$	Non-Trigger Gate Voltage		$T_J = 125\text{ }^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$	0.2	—	—	V
$(dv/dt)_c$	Critical Rate of Rise Off-State Voltage at Commutation		$T_J = 125\text{ }^\circ\text{C}$ , $[di/dt]_c = -0.75\text{ A/ms}$ , $V_D = 2/3 V_{DRM}$	5.0	—	—	V/ $\mu\text{s}$
$I_H$	Holding Current			—	5	—	mA
$R_{th(j-c)}$	Thermal Impedance		Junction to case	—	—	3.5	$^\circ\text{C/W}$



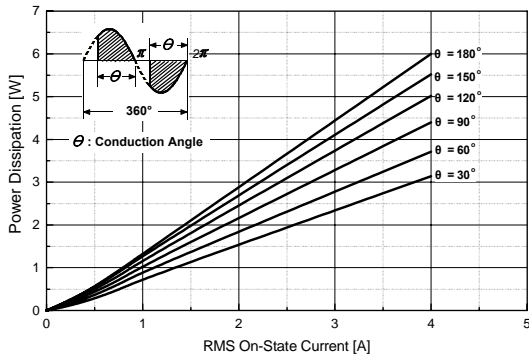
**Fig 1. Gate Characteristics**



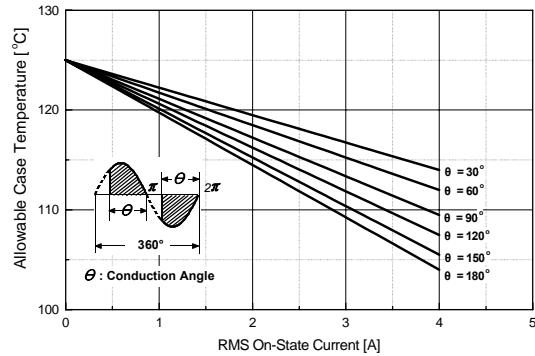
**Fig 2. On-State Voltage**



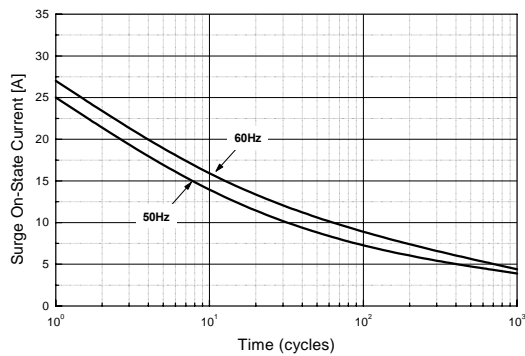
**Fig 3. On State Current vs. Maximum Power Dissipation**



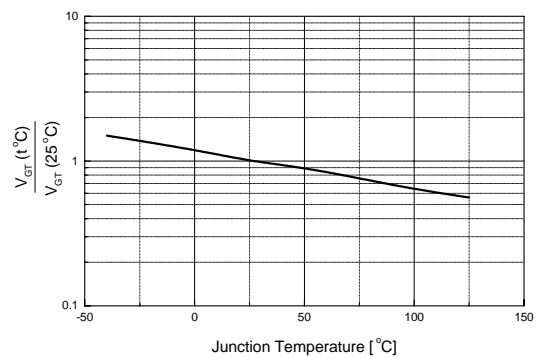
**Fig 4. On State Current vs. Allowable Case Temperature**



**Fig 5. Surge On-State Current Rating ( Non-Repetitive )**

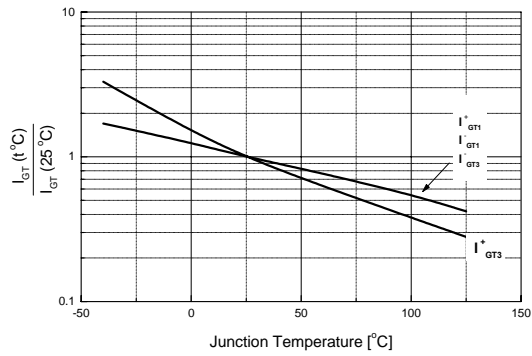


**Fig 6. Gate Trigger Voltage vs. Junction Temperature**

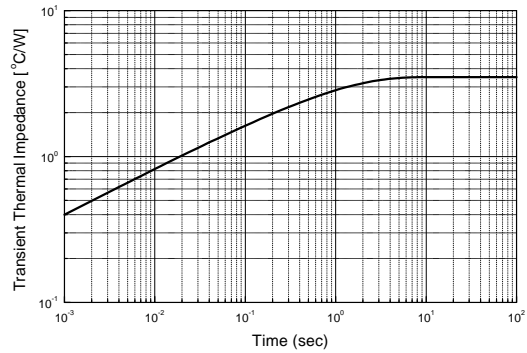


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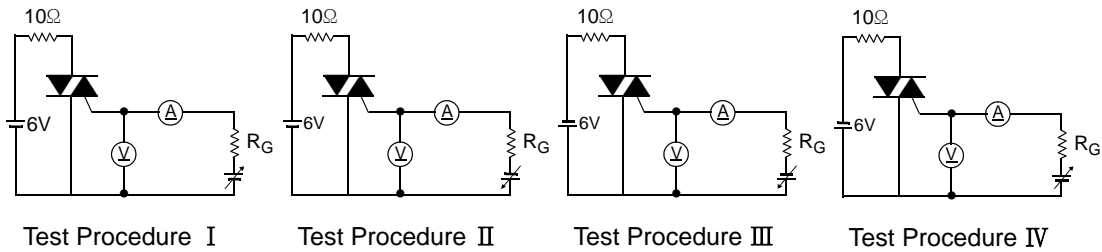
**Fig 7. Gate Trigger Current vs. Junction Temperature**



**Fig 8. Transient Thermal Impedance**

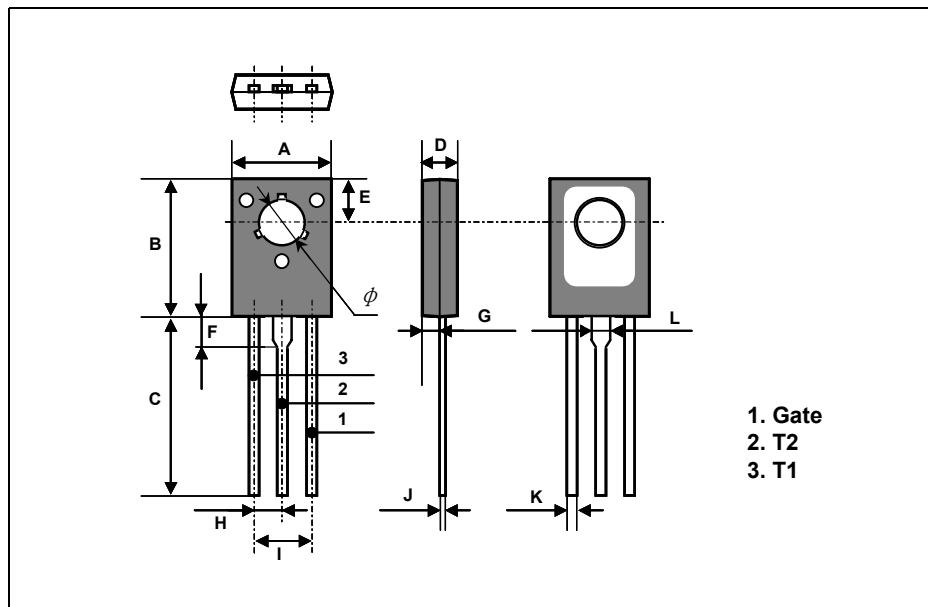


**Fig 9. Gate Trigger Characteristics Test Circuit**



## TO-126 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.5		7.9	0.295		0.311
B	10.8		11.2	0.425		0.441
C	14.2		14.7	0.559		0.579
D	2.7		2.9	0.106		0.114
E		3.8			0.150	
F		2.5			0.098	
G	1.2		1.5	0.047		0.059
H		2.3			0.091	
I		4.6			0.181	
J	0.48		0.62	0.019		0.024
K	0.7		0.86	0.028		0.034
L		1.4			0.055	
$\phi$		3.2			0.126	



## TO-126 Package Dimension, Forming

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.5		7.9	0.295		0.311
B	10.8		11.2	0.425		0.441
C	14.2		14.7	0.559		0.579
D	2.7		2.9	0.106		0.114
E		3.8			0.150	
F		2.5			0.098	
G	1.2		1.5	0.047		0.059
H		2.3			0.091	
I		4.6			0.181	
J	0.48		0.62	0.019		0.024
K	0.7		0.86	0.028		0.034
L		1.4			0.055	
M		5.0			0.197	
$\phi$		3.2			0.126	

