

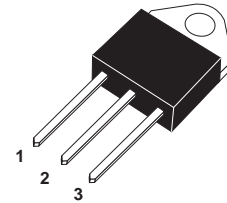
## ***Bi-Directional Triode Thyristor (600V/26A)***

Designed for high performance full-wave ac control applications where high noise immunity and high commutating di/dt are required.

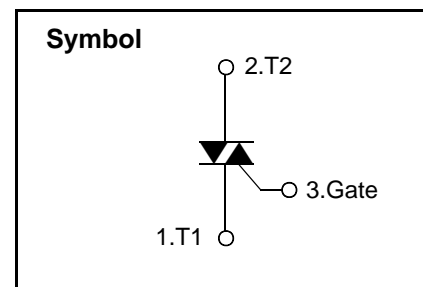
**TO-3P**

### **Features**

- Blocking Voltage to 600 V
- Package: TO-3P
- High current density due to double mesa technology, BTA26 series triacs is suitable for general purpose as an ON/OFF function in applications such as induction motor starting circuits or phase control speed controllers.
- BTA26 series are 3 Quadrants triacs, They are inductive loads.



(Insulated)



### **Absolute Maximum Ratings**

Parameter	Symbol	Value	Unit	
Storage junction temperature range	Tstg	-40 to +150	°C	
Operating junction temperature range	Tj	-40 to +125	°C	
Repetitive Peak OFF-state Voltage	V <sub>DRM</sub>	600	V	
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	600	V	
Non repetitive surge peak off-state voltage	V <sub>DSM</sub>	700	V	
Non repetitive peak reverse voltage	V <sub>RSM</sub>	700	V	
RMS on-state current(full sine wave)	IT(RMS)	TC=90°C	26	A
		TC=70°C		
Non repetitive surge peak on-state current(full cycle, T <sub>J</sub> =25°C)	ITSM	f=60Hz, t=16.7ms	270	A
		f=50Hz, t=20ms		
I <sup>2</sup> t Value for fusing	I <sup>2</sup> t	260	A <sup>2</sup> s	
Critical rate of rise of on-state current I <sub>G</sub> =2*I <sub>GT</sub> , t <sub>r</sub> ≤100ns, f=120Hz, T <sub>J</sub> =125°C	di/dt	100	A/us	
Peak gate current(tp=20us, T <sub>J</sub> =125°C)	I <sub>GM</sub>	4	A	
Peak gate power dissipation(tp=20us, T <sub>J</sub> =125°C)	P <sub>GM</sub>	10	W	
Average gate power dissipation(T <sub>J</sub> =125°C)	P <sub>G(AV)</sub>	1	W	



## Electrical Characteristics (T<sub>j</sub>=25°C, unless otherwise specified)

Symbol	Test Condition	Quadrant		Limit		Unit
				CW(C)	BW(B)	
I <sub>GT</sub>	V <sub>D</sub> =12V, R <sub>L</sub> =33Ω	I - II -III- IV	MAX	35	100	mA
V <sub>GT</sub>		I - II -III- IV	MAX	1.5		V
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> R <sub>L</sub> =3.3KΩ T <sub>j</sub> =125°C	I - II -III- IV	MIN	0.2		V
I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	I -III - IV	MAX	30	50	mA
		II	MAX	40	60	mA
I <sub>H</sub>	I <sub>T</sub> =100mA		MAX	40	60	mA
Dv/dt	V <sub>D</sub> =67%V <sub>DRM</sub> gate open T <sub>J</sub> =125°C		MIN	250	500	V/us
(Dv/dt) <sub>c</sub>	(dl/dt) <sub>c</sub> =8.8A/ms T <sub>j</sub> =125°C		MIN	7	12.5	V/us

## Static Characteristics

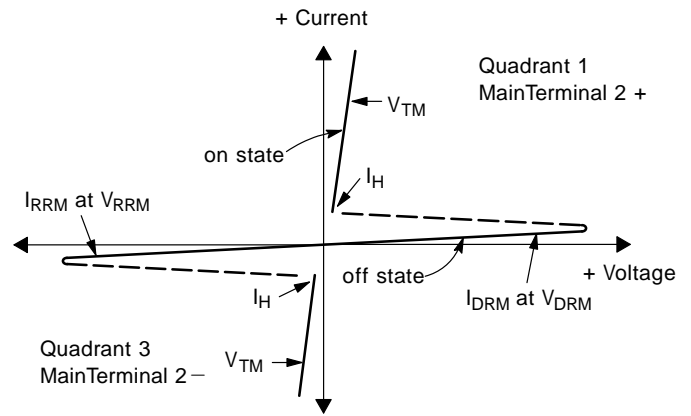
Symbol	Parameter	Value(MAX)	Unit
V <sub>TM</sub>	I <sub>TM</sub> =28A, t <sub>p</sub> =380us T <sub>j</sub> =25°C	1.55	V
I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub> V <sub>R</sub> =V <sub>RRM</sub>	T <sub>j</sub> =25°C	5 uA
I <sub>RRM</sub>		T <sub>j</sub> =125°C	2.5

## Thermal Resistances

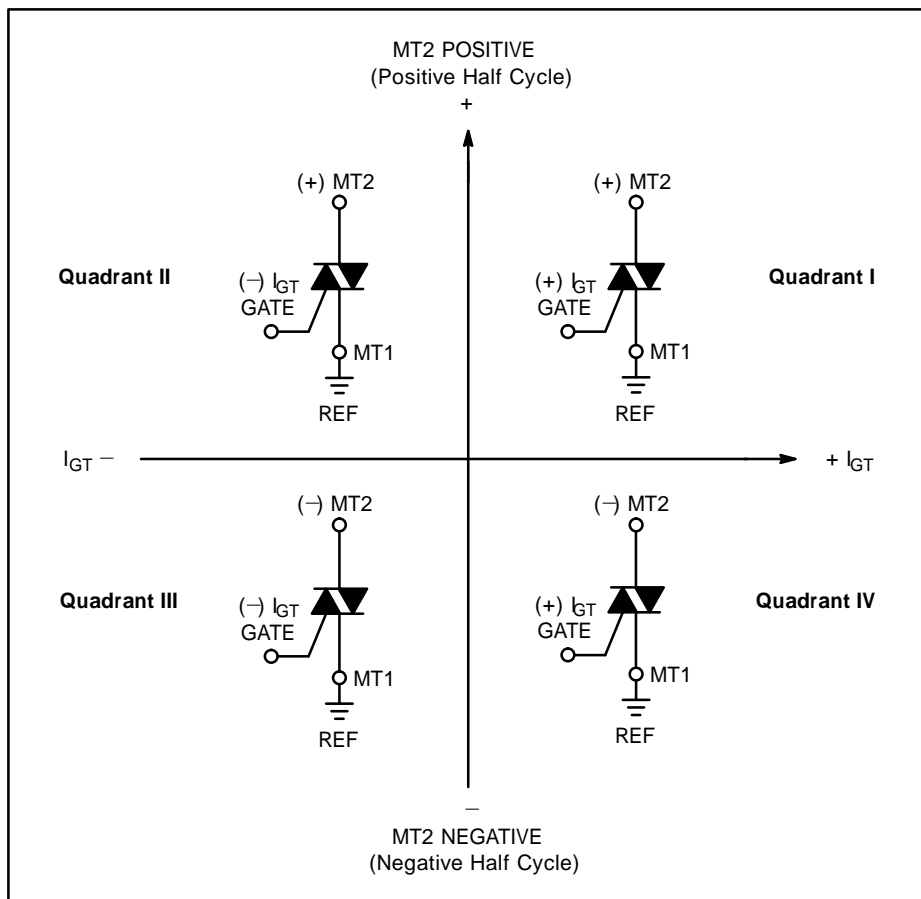
Symbol	Parameter	Value	Unit
R <sub>th</sub> (J-C)	Junction to case(AC)	2.1	°C/W

## Voltage Current Characteristic of Triacs (Bidirectional Device)

Symbol	Parameter
$V_{DRM}$	Peak Repetitive Forward Off State Voltage
$I_{DRM}$	Peak Forward Blocking Current
$V_{RRM}$	Peak Repetitive Reverse Off State Voltage
$I_{RRM}$	Peak Reverse Blocking Current
$V_{TM}$	Maximum On State Voltage
$I_H$	Holding Current



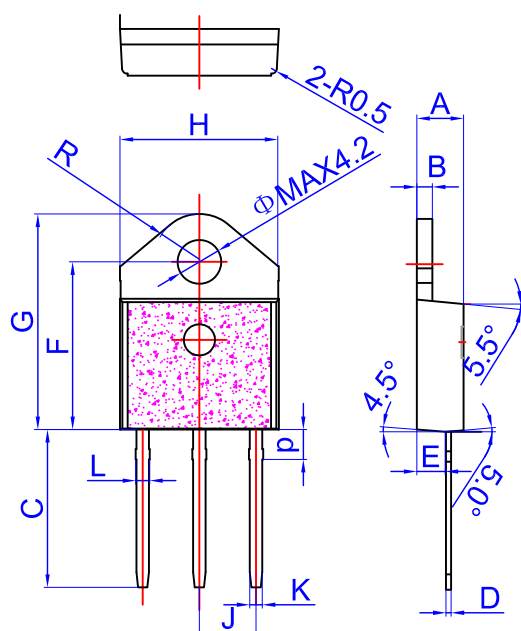
### Quadrant Definitions for a Triac



All polarities are referenced to MT1.  
With in-phase signals (using standard AC lines) quadrants I and III are used.

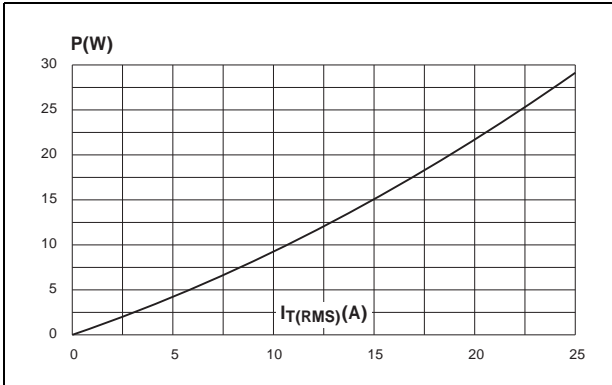
## PACKAGE MECHANICAL DATA

TO-3P insulated Package

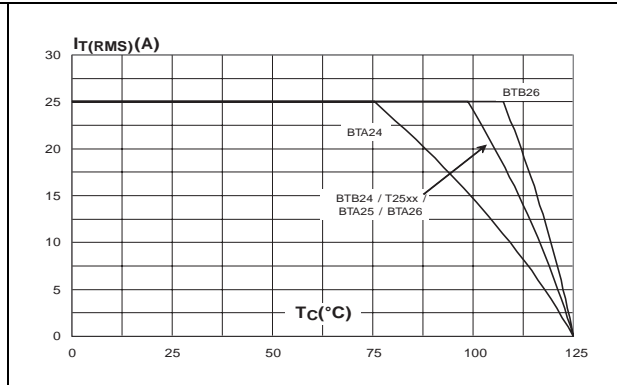


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.6	0.565		0.614
D	0.5		0.7	0.020		0.028
E	2.7		2.9	0.106		0.114
F	15.8		16.5	0.622		0.650
G	20.4		21.1	0.815		0.831
H	15.1		15.5	0.594		0.610
J	5.4		5.65	0.213		0.222
K	1.2		1.4	0.047		0.055
L	1.35		1.50	0.053		0.059
P	2.8		3.0	0.110		0.118
R		4.6			0.181	

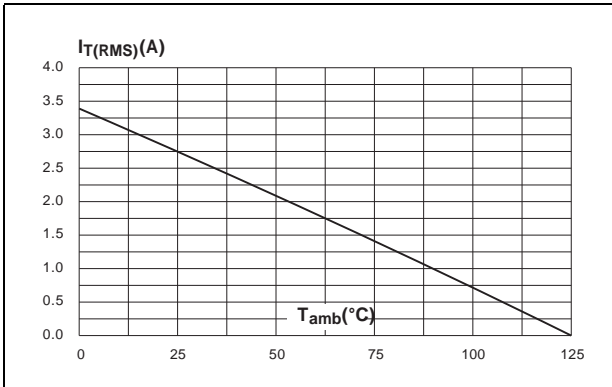
**Figure 1. Maximum power dissipation versus RMS on-state current (full cycle)**



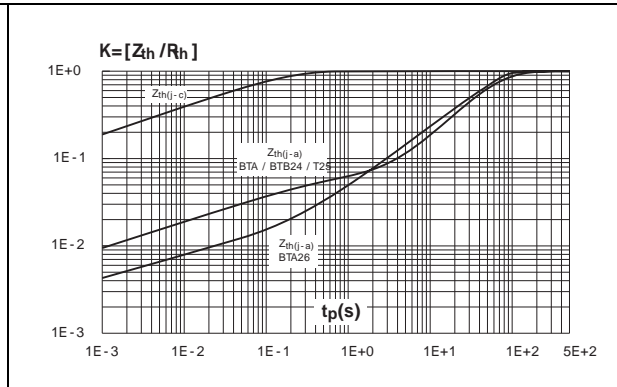
**Figure 2. RMS on-state current versus case temperature (full cycle)**



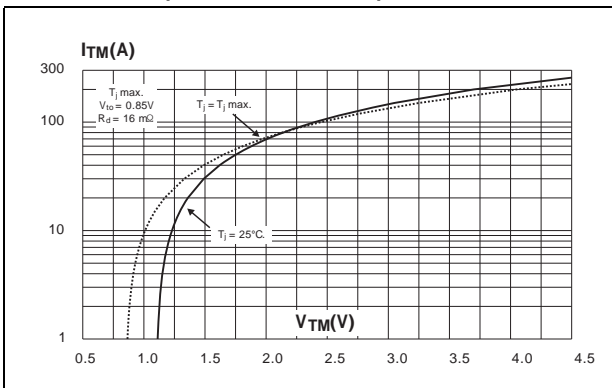
**Figure 3. D<sup>2</sup>PAK RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35µm) (full cycle)**



**Figure 4. Relative variation of thermal impedance versus pulse duration**



**Figure 5. On-state characteristics (maximum values)**



**Figure 6. Surge peak on-state current versus number of cycles**

