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**BTX18-100/BTX18-200/BTX18-300  
 BTX18-400/BTX18-500**

**Anode to Cathode - Ratings**

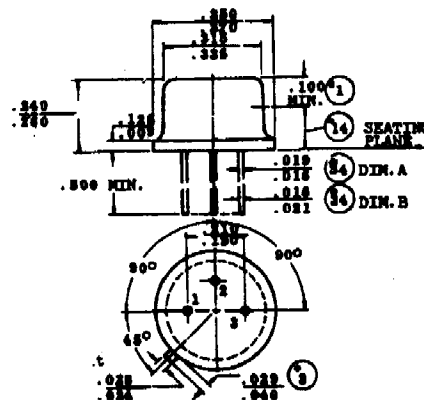
Voltage <sup>1)</sup>

**SILICON THYRISTORS**

Symbol	Ratings	BTX18-100	BTX18-200	BTX18-300	BTX18-400	BTX18-500	
V <sub>R</sub>	Continuous Reverse Voltage	100	200	300	400	500	V
V <sub>RWM</sub>	Crest Working Reverse Voltage	100	200	300	400	500	V
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage (δ = 0.01 ; f=50Hz)	120	240	350	500	600	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage (t<10ms)	120	240	350	500	600	V
V <sub>DWM</sub>	Crest Working off-state Voltage	100	200	300	400	500	V
V <sub>D</sub>	Continuous off-state Voltage	100	200	300	400	500	V
V <sub>DRM</sub>	Repetitive peak off-state voltage (δ = 0.01 ; f=50Hz)	120	240	350	500	600	V <sup>2)</sup>
V <sub>DSM</sub>	Non-repetitive peak off-state voltage (t<10ms)	120	240	350	500	600	V <sup>2)</sup>

Currents

Symbol	Ratings	BTX18-100	BTX18-200	BTX18-300	BTX18-400	BTX18-500	
I <sub>T(AV)</sub>	Average on-state current (averaged over any 20 ms period)	T <sub>CASE</sub> =105°C		Max : 1.0			A
		T <sub>AMB</sub> =60°C, in free air		Max : 250			mA
I <sub>T</sub>	On-state Current (D.C.) T <sub>CASE</sub> =100°C				Max : 1.6		A
I <sub>T(RMS)</sub>	RMS on-state Current				Max : 1.6		A



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Symbol	Ratings	BTX18-	BTX18-	BTX18-	BTX18-	BTX18-	
		100	200	300	400	500	
$I_{TRM}$	Repetitive Peak on-state Current	Max : 10					A
$I_{TSM}$	Non-repetitive peak on-state current $t=10ms$ ; $T_J=125^\circ C$ prior to surge	10 A					V
$T_J$ $T_{stg}$	Junction Temperature Storage Temperature	Max : $125^\circ C$ -55 to $+125^\circ C$					$^\circ C$

- 1) These ratings apply for zero or negative bias on the gate with respect to the cathode, and when a resistor  $R < 1\text{ k}\Omega$  is connected between gate and cathode
- 2) The device is not suitable for operation in the forward breakover mode.

### Gate to Cathode - Ratings

With  $1\Omega$  resistor between gate and cathode

Symbol	Ratings	BTX18	BTX18	BTX18	BTX18	BTX18	
		-100	-200	-300	-400	-500	
$V_{FGM}$	Forward Peak Voltage	Max : 10 V					V
$V_{RGM}$	Reverse Peak Voltage	Max : 5 V					V
$I_{FGM}$	Forward Peak Current	Max : 0.2					A
$P_{G(AV)}$	Average Power Dissipation (averaged over any 20 ms period)	Max : 0.05					W
$P_{GM}$	Peak Power Dissipation	Max : 0.5					W

### Temperatures

Symbol	Ratings	BTX18	BTX18	BTX18	BTX18	BTX18	
		-100	-200	-300	-400	-500	
$R_{th\ J-c}$	From Junction to Case	10					$^\circ C/W$
$R_{th\ J-a}$	From Junction to Ambient	200					$^\circ C/W$
$Z_{th\ J-c}$	Transient Thermal Resistance ( $t=10\text{ ms}$ )	2.5					$^\circ C/W$

### Anode to Cathode - Characteristics

Symbol	Ratings	BTX18	BTX18	BTX18	BTX18	BTX18	
		-100	-200	-300	-400	-500	
$V_T$	On State Voltage $I_T=1.0\text{ A}$ , $T_J=25^\circ C$	< 1.5	1.5	1.5	1.5	1.5	$V'$ )

Symbol	Ratings		BTX18 -100	BTX18 -200	BTX18 -300	BTX18 -400	BTX18 -500	
$I_{RM}$	Peak Reverse Current $V_{RM}=V_{RWmax}; T_j=125^\circ C$	<	800	400	275	200	160	$\mu A$
$I_{DM}$	Peak off-state Current $V_{DM}=V_{DWmax}; T_j=125^\circ C$	<	800	400	275	200	160	$\mu A$
$I_L$	Latching current, $T_j=125^\circ C$		Typ : 10					mA
$I_H$	Holding Current ; $T_j=25^\circ C$	<	5.0 <sup>2)</sup>					mA

### Gate to Cathode – Characteristics

Symbol	Ratings		BTX18 -100	BTX18 -200	BTX18 -300	BTX18 -400	BTX18 -500	
$V_{GT}$	Voltage that will trigger all devices $T_j=25^\circ C$	>	2.0					V
$V_{GD}$	Voltage that will not trigger any device $T_j=125^\circ C$	<	200					mV
$I_{GT}$	Current that will trigger all devices $T_j=25^\circ C$	>	5.0					mA

### Switching Characteristics

Symbol	Ratings		BTX18 -100	BTX18 -200	BTX18 -300	BTX18 -400	BTX18 -500	
Turn off time when switched from $I_T=300\text{ mA}$ to $I_R=175\text{ mA}$	$T_j=25^\circ C$	$t_q$	Type : 20					$\mu s$
	$T_j=125^\circ C$		Typ : 35					
$I_{DM}$	Peak off-state Current $V_{DM}=V_{DWmax}; T_j=125^\circ C$	<	800	400	275	200	160	$\mu s$

- 1)  $V_T$  is measured along the leads at 1 cm from the case
- 2) Measured under the following conditions :  
 Anode supply voltage = +6.0V  
 Initial on-state current after gate triggering = 50mA  
 The current is reduced until the device turns off.