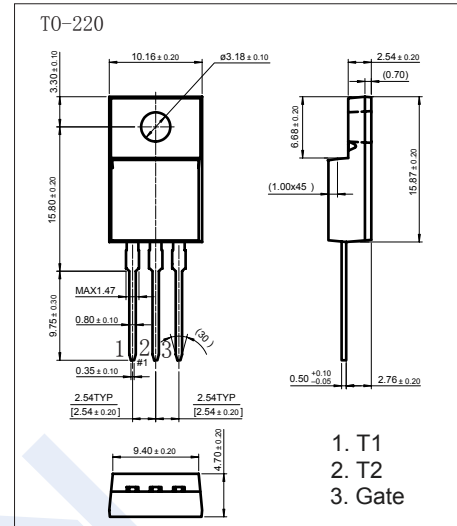
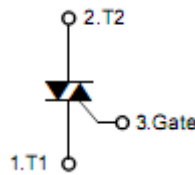


TRIACS Thyristor BTA16-600

■ Features

- Repetitive peak off-state voltages :600V
- RMS on-state current :16A



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Peak Repetitive Forward and Reverse Blocking Voltages	V_{DRM} V_{RRM}	600	V
RMS on-state Current	$I_{T(RMS)}$	16	A
Non-Repetitive Peak on-state Current @ 50Hz, $t_p=20\text{ms}$	I_{TSM}	160	
junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-40 to 150	

■ Electrical Characteristics ($T_a = 25^\circ\text{C}$, unless otherwise noted.)

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Unit
Repetitive Peak off-state Voltages	V_{DRM} V_{RRM}	$I_D=I_R=10\mu\text{A}$	600			V
Off-state Leakage Current	$I_{D,IR}$	$V_{DRM}=V_{RRM}=V_D$			0.1	mA
On-state Voltage	V_{TM}	$I_T=22.5\text{A}$			1.55	V
Gate Trigger Voltage	V_{GT}	$V_D=12\text{V}$, $R_L=100\Omega$	$T_{2+,G+}$		1	
			$T_{2+,G-}$		1	
			$T_{2-,G-}$		1	
Gate Trigger Current	I_{GT}	$V_D=12\text{V}$, $R_L=100\Omega$	$T_{2+,G+}$		50	
			$T_{2+,G-}$		50	
			$T_{2-,G-}$		50	
Holding Current	I_H	$I_{GT}=500\text{mA}$			50	mA
Critical rate of rise of off state voltage	dV/dt	$V_{DM}=67\%V_{DRM}$ Gate open $T_J=110^\circ\text{C}$	500			V/ μs
Critical rate of rise of commutating voltage	$(dV/dt)_c$	$V_{DM}=400\text{V}$ $T_J=110^\circ\text{C}$ $(dI/dt)_c = 7\text{A/ms}$ Gate open	10			
Trigger voltage	V_{GD}	$V_D=1/2 V_{DRM}$	0.2			V

TRIACS Thyristor BTA16-600

■ Typical Characteristics

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

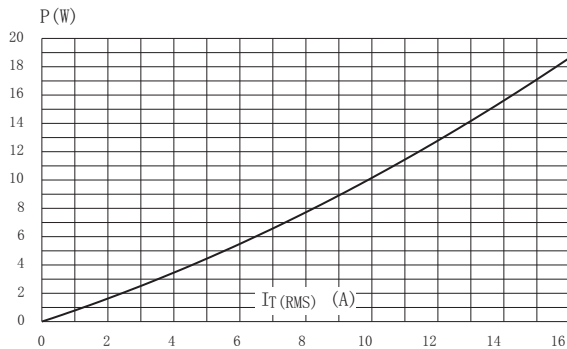


Figure 2: RMS on-state current versus case temperature (full cycle)

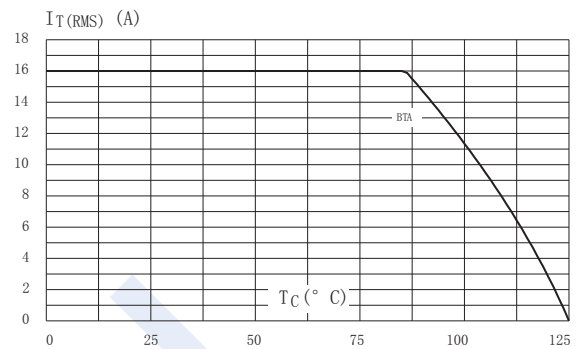


Figure 3: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35µm) (full cycle)

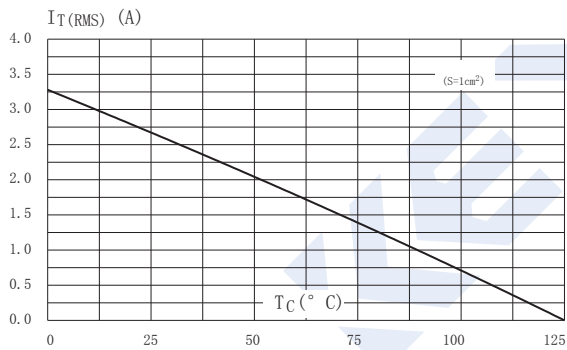


Figure 4: Relative variation of thermal impedance versus pulse duration

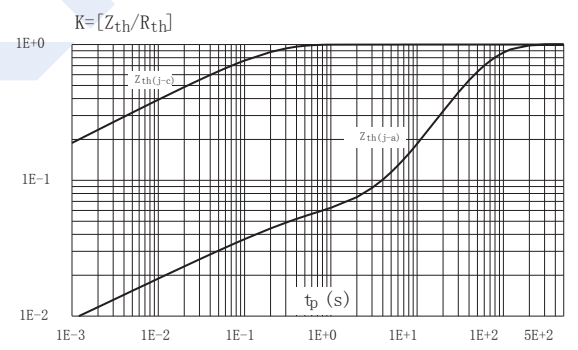


Figure 5: On-state characteristics (maximum values)

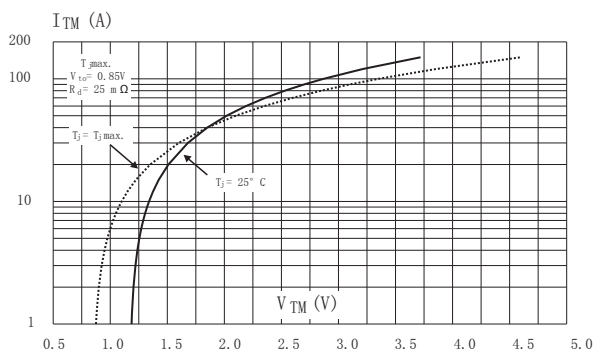
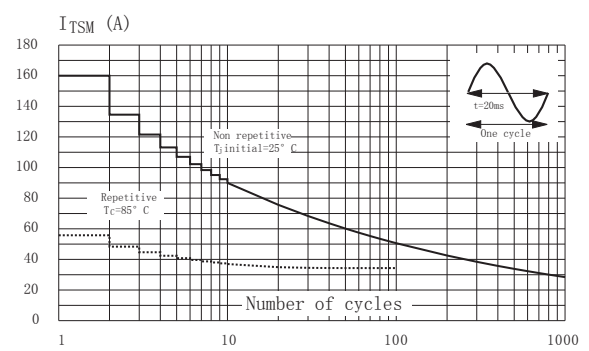


Figure 6: Surge peak on-state current versus number of cycles



TRIACS Thyristor BTA16-600

■ Typical Characteristics

Figure 7: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms and corresponding value of I^2t

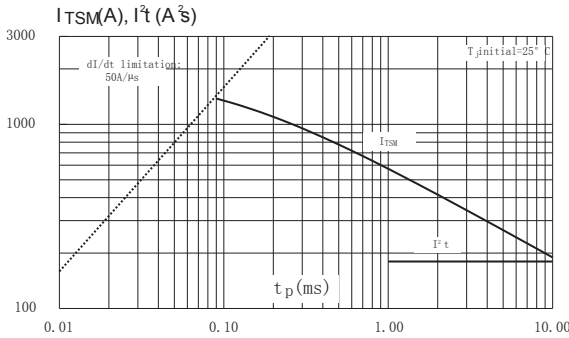


Figure 9: Relative variation of critical rate of decrease of main current versus $(dV/dt)_c$ (typical values) (Snubberless & Logic level types)

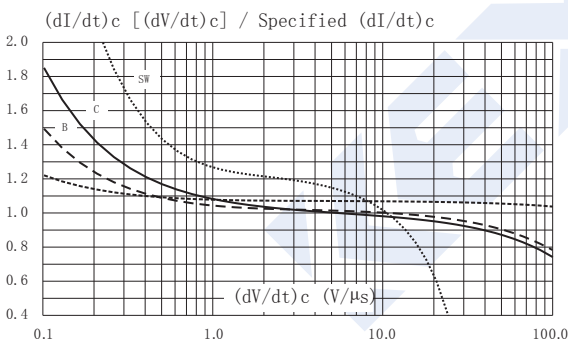


Figure 11: Thermal resistance junction to ambient versus copper surface under tab (printed circuit board FR4, copper thickness: 35 µm)

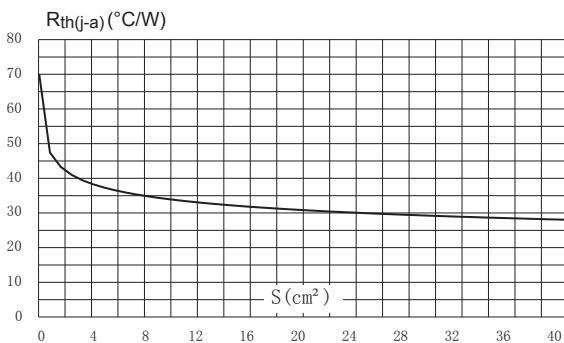


Figure 8: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values)

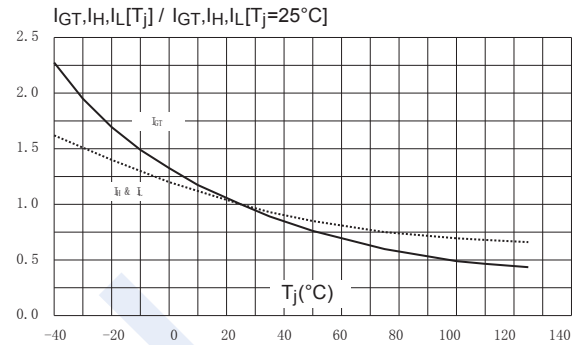


Figure 10: Relative variation of critical rate of decrease of main current versus $(dV/dt)_c$ (typical values) (Standard types)

