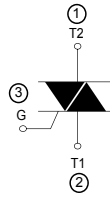


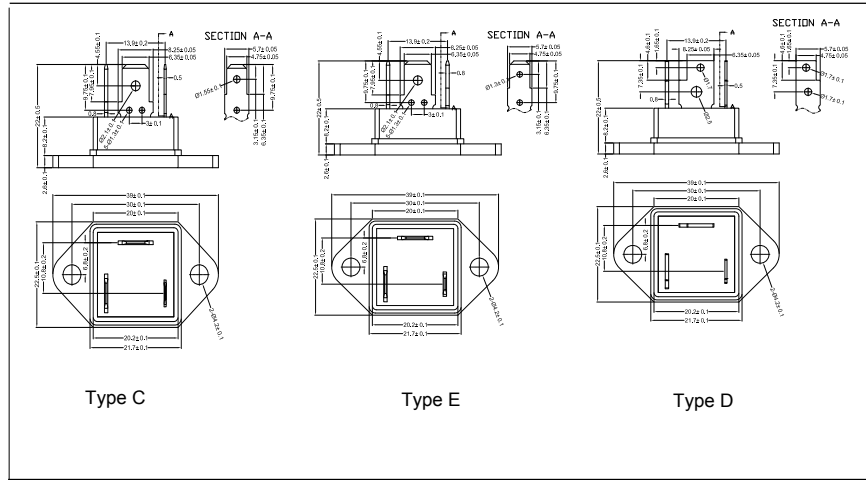
# SBTA41G04B thru SBTA41G16B

## Discrete Triacs (Isolated)

T1



Unit:mm



	VDRM/RRM	VDSM/RSM
	V	V
SBTA41G04B	400	500
SBTA41G06B	600	700
SBTA41G08B	800	900
SBTA41G10B	1000	1100
SBTA41G12B	1200	1300
SBTA41G16B	1600	1700

Symbol	Test Conditions	Maximum Ratings	Unit
$I_{TRMS}$	$T_{VJ}=80^{\circ}C$	40	A
$I_{TSM}$	$T_{VJ}=45^{\circ}C$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	420 400	A
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	350 320	
$i^2t$	$T_{VJ}=45^{\circ}C$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	880 850	$A^2s$
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	760 720	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ $f=50Hz, t_p=200us$ $V_D=2/3V_{DRM}$ $I_G=0.3A$ $di_G/dt=0.3A/us$	repetitive, $I_T=40A$ 50 non repetitive, $I_T=I_{TAVM}$ 300	A/us
	$T_{VJ}=T_{VJM};$ $R_{GK}=\infty$ ; method 1 (linear voltage rise)	$V_{DR}=2/3V_{DRM}$ 500	
$P_{GM}$	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$	$t_p=30us$ 10 $t_p=300us$ 5	W
$P_{GA V}$		1	W
$V_{RGM}$		10	V
$T_{VJ}$ $T_{VJM}$ $T_{stg}$		-40...+125 125 -40...+125	$^{\circ}C$
$V_{ISOL}$	50/60Hz, RMS $t=1$ minute, leads-to-tab	2500	V~
$M_d$	Mounting torque (M4)	0.8...1.5	Nm
Weight		25	g

# SBTA41G04B thru SBTA41G16B

## Discrete Triacs(Isolated)

Symbol	Test Conditions	Characteristic Values	Unit				
$I_R, I_D$	$T_{VJ}=T_{VJM}; V_D=V_{DRM}$	10	mA				
$V_{TM}$	$I_T=60A; T_{VJ}=25^{\circ}C$	1.44	V				
$V_{TO}$	For power-loss calculations only ( $T_{VJ}=125^{\circ}C$ )	0.85	V				
$r_T$		10	$\Omega$				
$V_{GT}$	<table border="1"> <tr><td>I</td></tr> <tr><td>II</td></tr> <tr><td>III</td></tr> <tr><td>IV</td></tr> </table> $V_D=6V; I_T=1A; T_{VJ}=25^{\circ}C$	I	II	III	IV	1.3	V
		I					
		II					
		III					
IV							
1.3							
1.3							
1.5							
$I_{GT}$	<table border="1"> <tr><td>I</td></tr> <tr><td>II</td></tr> <tr><td>III</td></tr> <tr><td>IV</td></tr> </table> $V_D=6V; I_T=1A; T_{VJ}=25^{\circ}C$	I	II	III	IV	50	mA
		I					
		II					
		III					
IV							
50							
50							
100							
$V_{GD}$	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.2	V				
$I_{GD}$		10	mA				
$I_H$	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	100	mA				
$R_{thJC}$	DC current	1.3	K/W				
$R_{thJH}$	DC current	1.5	K/W				
<b>a</b>	Max. acceleration, 50 Hz	50	m/s <sup>2</sup>				

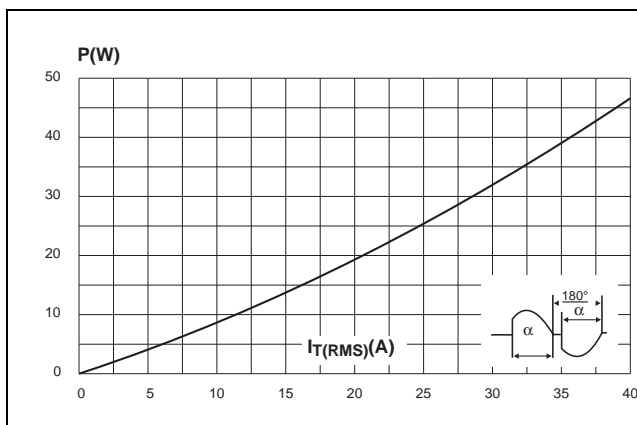


Figure 1. Maximum power dissipation versus on-state rms current (full cycle)

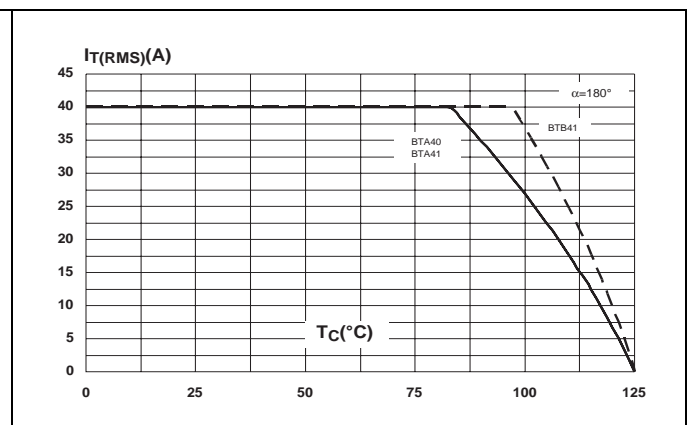
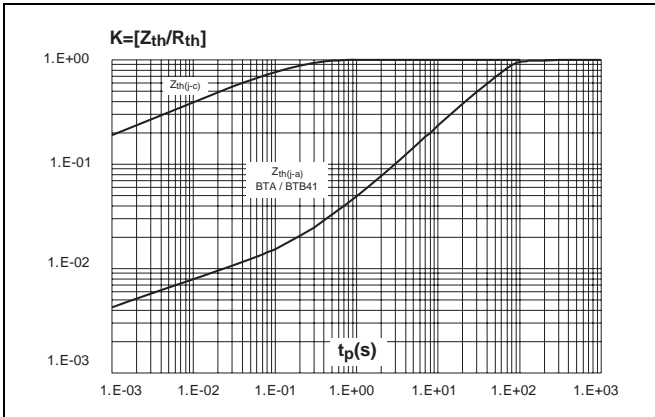


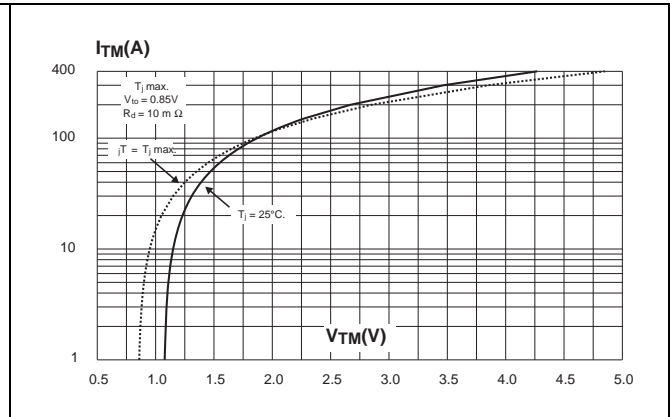
Figure 2. On-state rms current versus case temperature (full cycle)

# SBTA41G04B thru SBTA41G16B

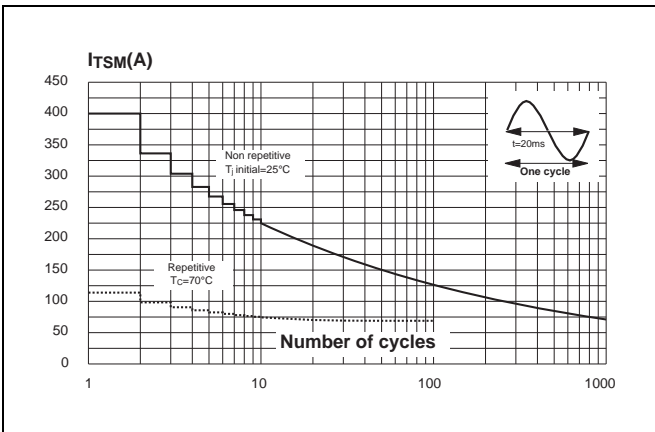
## Discrete Triacs (Isolated)



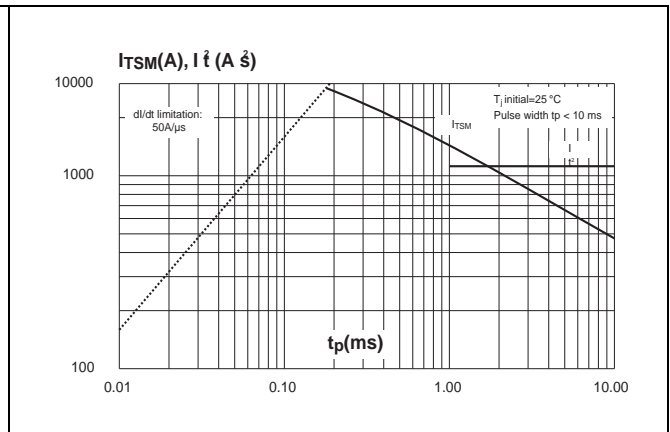
**Figure 3. Relative variation of thermal impedance versus pulse duration**



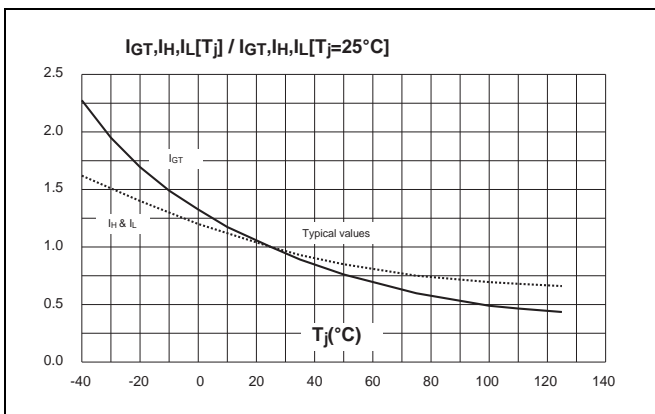
**Figure 4. On-state characteristics (maximum values)**



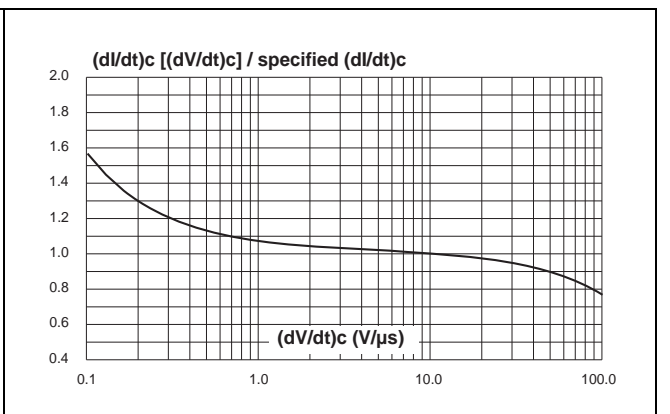
**Figure 5. Surge peak on-state current versus number of cycles**



**Figure 6. Non-repetitive surge peak on-state current for a sinusoidal pulse and corresponding value of  $I^2t$**



**Figure 7. Relative variation of gate trigger, holding and latching current versus junction temperature**



**Figure 8. Relative variation of critical rate of decrease of main current versus  $(dV/dt)_c$  (typical values)**

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