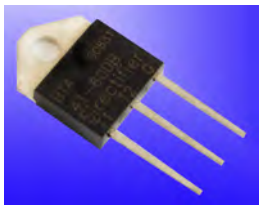
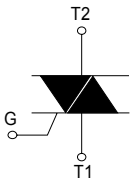
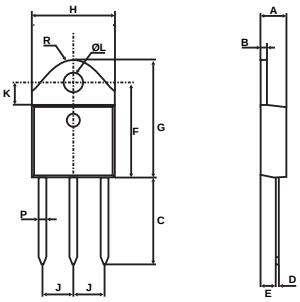
BTA41

Discrete Triacs(Isolated)





	$V_{DRM/RRM}$ V	$V_{DSM/RSM}$ V
BTA41-200	200	300
BTA41-400	400	500
BTA41-600	600	700
BTA41-800	800	900
BTA41-1000	1000	1100
BTA41-1200	1200	1300



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		15.60	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	20.2		21.1	0.795		0.831
H	15.1		15.5	0.594		0.610
J	5.2		5.65	0.204		0.222
K	3.4		3.65	0.134		0.144
ØL	4.08		4.17	0.161		0.164
P	1.20		1.40	0.047		0.055
R		4.60			0.181	

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter			Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)	TO-218	Tc = 80 °C	40	A
I_{TSM}	Non repetitive surge peak on-state current (full cycle, Tj initial = 25°C)	F = 60 Hz	t = 16.7 ms	400	A
		F = 50 Hz	t = 20 ms	420	
I^2t	I^2t Value for fusing	tp = 10 ms		880	A^2s
di/dt	Critical rate of rise of on-state current I_G = 2 x I_{GT} , tr ≤ 100 ns	F = 120 Hz	Tj = 125°C	150	A/µs
V_{DSM}/V_{RSM}	Non repetitive surge peak off-state voltage	tp = 10 ms	Tj = 25°C	V_{DRM}/V_{RRM} + 100	V
I_{GM}	Peak gate current	tp = 20 µs	Tj = 125°C	8	A
$P_{G(AV)}$	Average gate power dissipation		Tj = 125°C	1	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range			- 40 to + 150 - 40 to + 125	°C

ELECTRICAL CHARACTERISTICS (Tj = 25°C, unless otherwise specified)

Symbol	Test Conditions	Quadrant		Value	Unit
I_{GT}	V_D = 12 V R_L = 33 Ω	I - II - III	MAX.	50	mA
		IV		100	
V_{GT}		ALL	MAX.	1.3	V
V_{GD}	$V_D = V_{DRM}$ R_L = 3.3 kΩ Tj = 125°C	ALL	MIN.	0.2	V
I_H	I_T = 500 mA		MAX.	80	mA
I_L	I_G = 1.2 I_{GT}	I- III-IV	MAX.	70	mA
		II		160	
dv/dt	V_D = 2/3 V_{DRM} gate open Tj = 125°C		MIN.	500	V/µs
(di/dt)c	Without snubber Tj = 125°C		MIN.	10	A/ms

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BTA41

Discrete Triacs(Isolated)

STATIC CHARACTERISTICS

Symbol	Test Conditions			Value	Unit
V_{TM}	I_{TM} = 40 A tp = 380 µs	Tj = 25°C	MAX.	1.44	V
V_{To}	Threshold voltage	Tj = 125°C	MAX.	0.85	V
R_d	Dynamic resistance	Tj = 125°C	MAX.	10	mΩ
I_{DRM}	V_{DRM} = V_{RRM}	Tj = 25°C	MAX.	5	µA
I_{RRM}		Tj = 125°C		5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case (AC)	1.3	°C/W
$R_{th(j-a)}$	Junction to ambient	50	°C/W

PRODUCT SELECTOR

Part Number	Voltage (xxx)		Sensitivity	Type	Package
	200 V ~~ 1200 V				
BTA41	X	X	50 mA	Standard	TO-218

OTHER INFORMATION

Part Number	Marking	Weight	Base quantity	Packing mode
BTA41	BTA41	6 g	120	Bulk

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

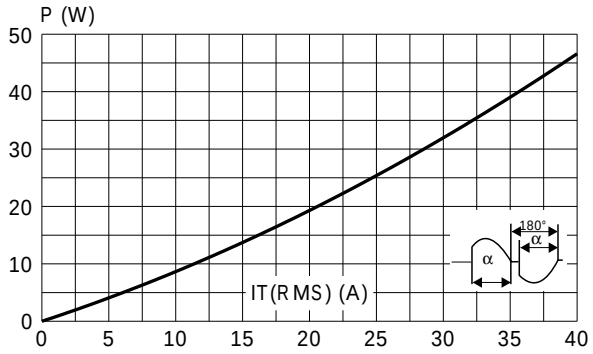

Fig. 2: RMS on-state current versus case temperature (full cycle).

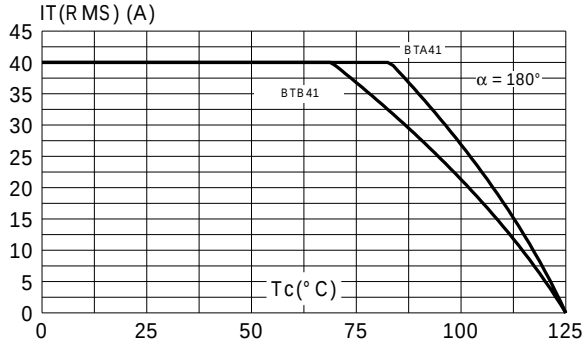

Fig. 3: Relative variation of thermal impedance versus pulse duration.

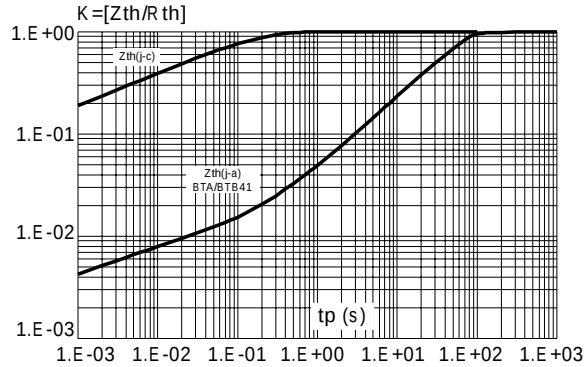

Fig. 4: On-state characteristics (maximum values).

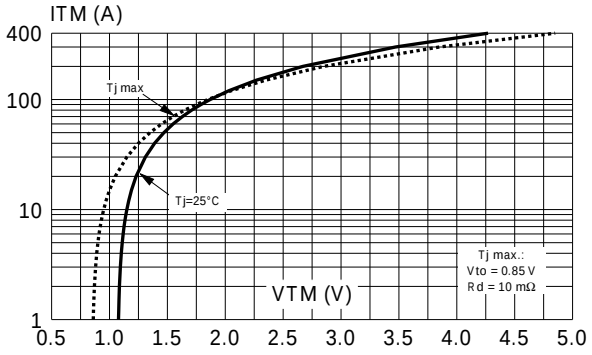

Fig. 5: Surge peak on-state current versus number of cycles.

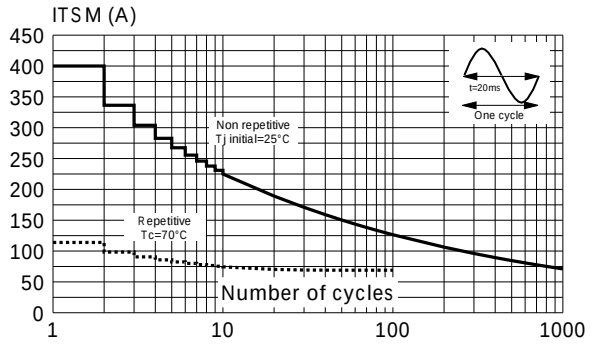

Fig. 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I^2t.

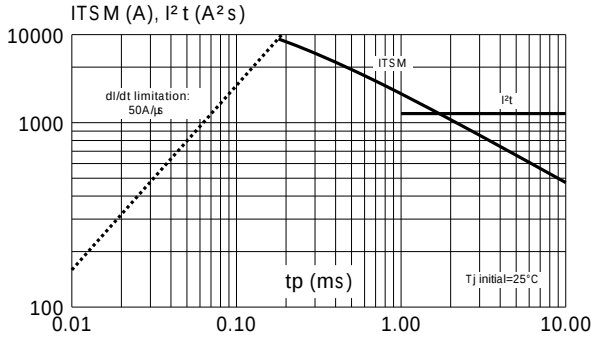

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Fig. 7: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

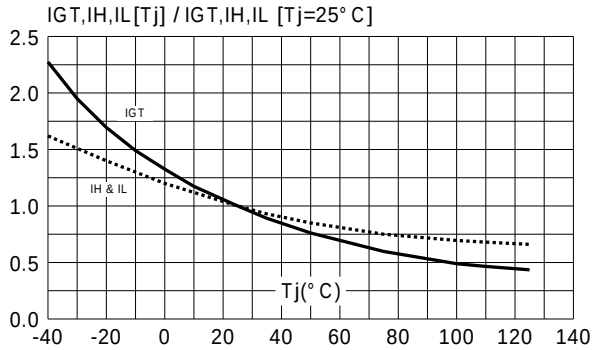


Fig. 8: Relative variation of critical rate of decrease of main current versus (dV/dt)c (typical values).

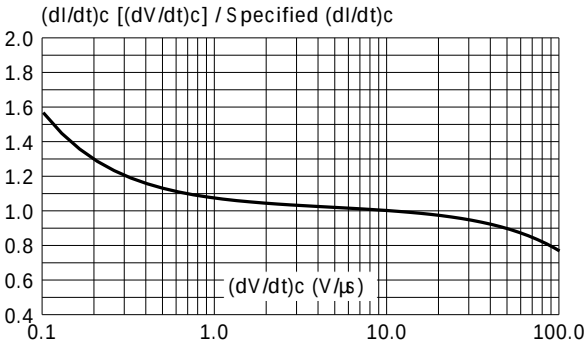
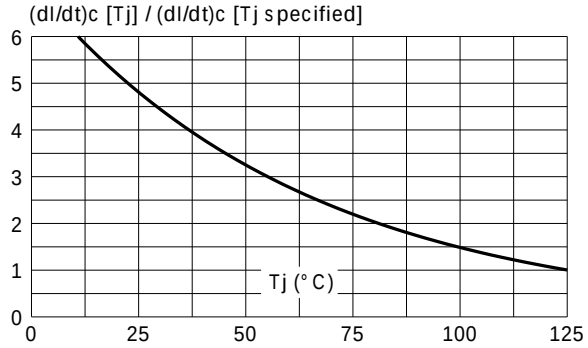


Fig. 9: Relative variation of critical rate of decrease of main current versus junction temperature.



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