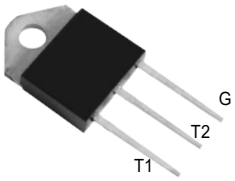
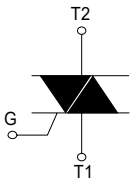
BTA41

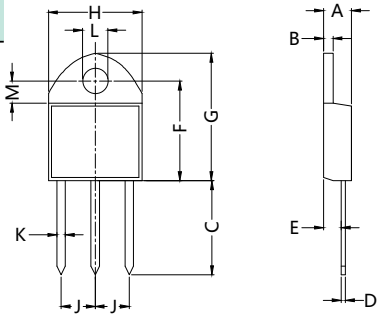
Discrete Triacs(Isolated)





	$V_{DRM/RRM}$ V	$V_{DSM/RSM}$ V
BTA41-200	200	300
BTA41-400	400	500
BTA41-600	600	700
BTA41-700	700	800
BTA41-800	800	900
BTA41-1000	1000	1100
BTA41-1200	1200	1300
BTA41-1400	1400	1500
BTA41-1600	1600	1700

Dimensions TO-218



Dim.	Millimeter	
	Min.	Max.
A	4.40	4.70
B	1.45	1.65
C	14.50	16.10
D	0.45	0.80
E	2.60	2.95
F	15.80	17.00
G	20.10	21.20
H	15.00	15.80
J	5.30	5.75
K	1.25	1.55
□L	4.00	4.25
M	3.45	3.75

RoHS Compliant

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=60Hz	t=16.7ms	400	A
		F=50Hz	t=20ms	420	
I^2t	I^2t Value for fusing	tp=10ms		880	A^2s
di/dt	Critical rate of rise of on-state current IG=2xIGT, tr≤100ns	F=120Hz	Tj=125°C	150	A/µs
V_{DSM}/V_{RSM}	Non repetitive surge peak off-state voltage	tp=10ms	Tj=25°C	V_{DRM}/V_{RRM} + 100	V
I_{GM}	Peak gate current	tp=20µs	Tj=125°C	8	A
$P_{G(AV)}$	Average gate p ower diss ipation		Tj=125°C	1	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range			- 40to+150 - 40to+125	°C

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

Symbol	Test Conditions	Quadrant		Value	Unit
I_{GT}	V_D=12V R_L=33Ω	I - II - III IV	MAX.	5 - 100 10 - 150	mA
V_{GT}		ALL		1.3-2.5	V
V_{GD}	$V_D=V_{DRM}$ R_L=3.3 kΩ Tj=125°C	ALL	MIN.	0.2	V
I_H	I_T=500mA		MAX.	80	mA
I_L	$I_G=1.2I_{GT}$	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
V_{ISO}	1min		>2500VAC		

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STATIC CHARACTERISTICS

Symbol	Test Conditions			Value	Unit
V_{TM}	I_{TM}=40A tp=380μs	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)		I_{GT} Max (mA)				V_{GT} Max	Package
	200 V	~~ 1600 V	Q1	Q2	Q3	Q4	V	
BTA41-xxxA	X	X	100	100	100	150	2.50	TO-218
BTA41-xxxB	X	X	50	50	50	100	2.50	TO-218
BTA41-xxxC	X	X	25	25	25	50	2.50	TO-218
BTA41-xxxD	X	X	5	5	5	10	2.50	TO-218
BTA41-xxxE	X	X	10	10	10	25	2.50	TO-218
BTA41-xxxAW	X	X	100	100	100	X	2.50	TO-218
BTA41-xxxBW	X	X	50	50	50	X	2.50	TO-218
BTA41-xxxCW	X	X	35	35	35	X	2.50	TO-218
BTA41-xxxSW	X	X	10	10	10	X	2.50	TO-218
BTA41-xxxTW	X	X	5	5	5	X	2.50	TO-218

OTHER INFORMATION

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

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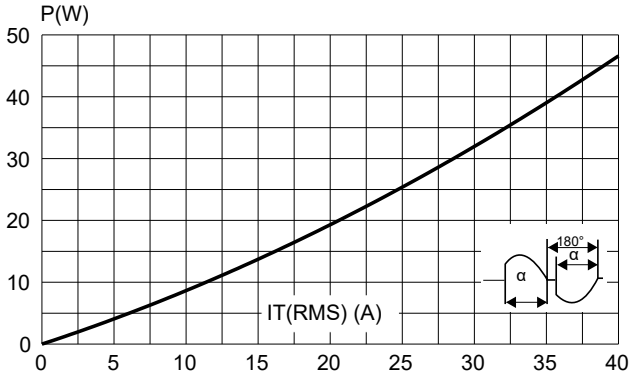

Fig.1: Maximum power dissipation versus RMS on-state current (full cycle).

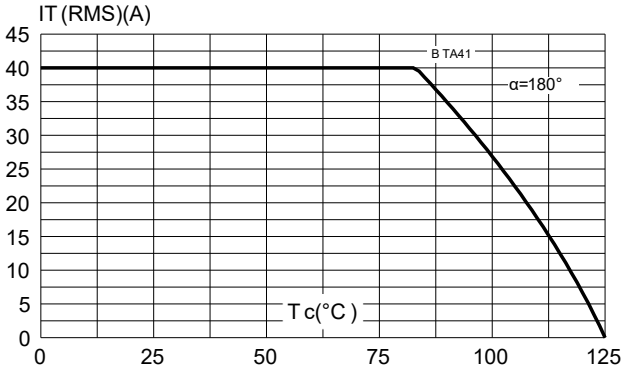

Fig.2: RMS on-state current versus case temperature (full cycle).

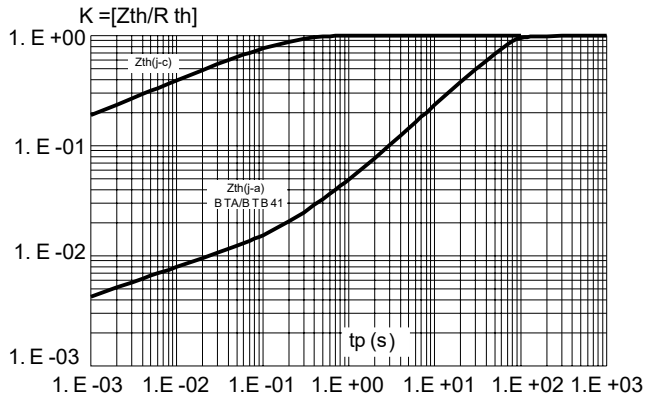

Fig.3: Relative variation of thermal impedance versus pulse duration.

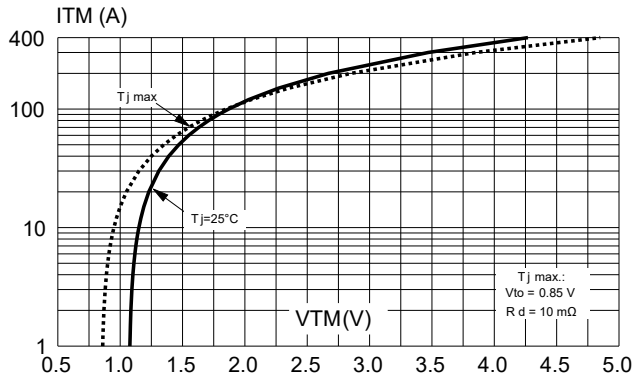

Fig.4:On-state characteristics (maximum values).

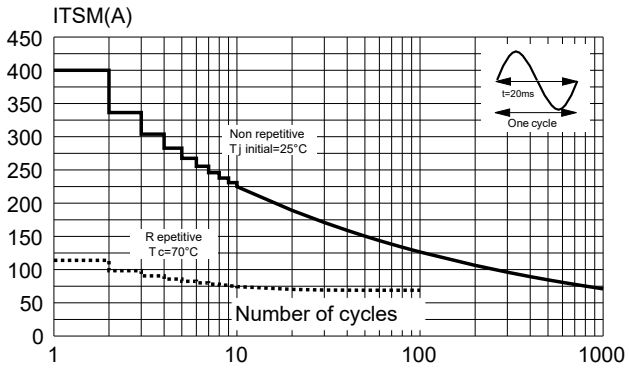

Fig.5: Surge peak on-state current vers us number of cycles .

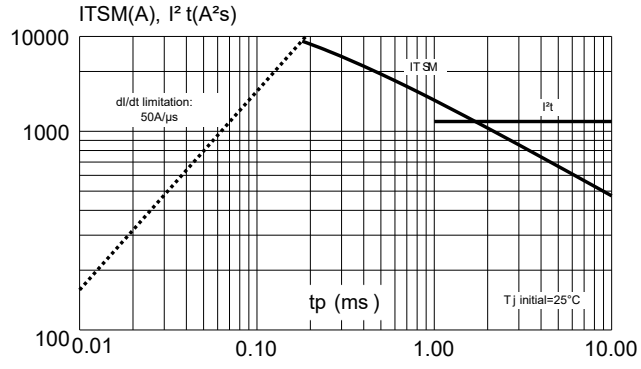

Fig.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponding value of I²t.

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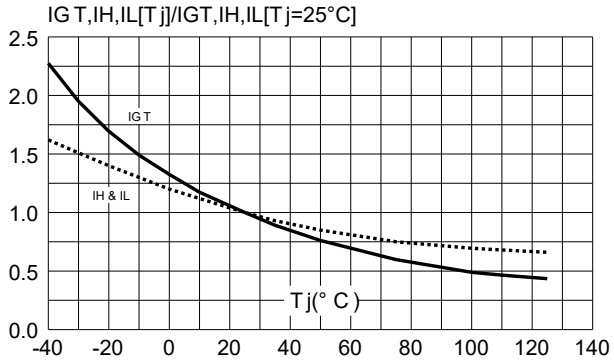

Fig.7:Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

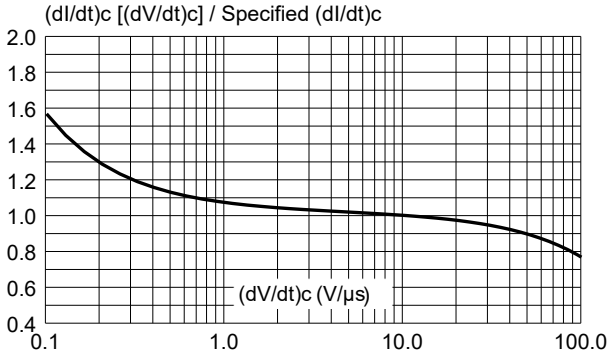

Fig.8: Relative variation of critical rate of decrease of main current versus (dV /dt)c (typical values).

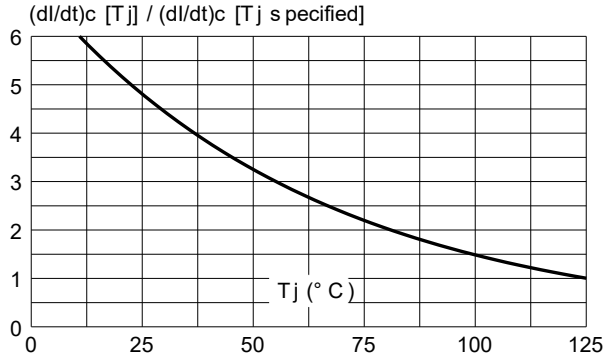

Fig.9: Relative variation of critical rate of decrease of main current versus junction temperature.

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