Product Manual

EKWIN ELECTRONICS CO.,LTD

EK BTA41

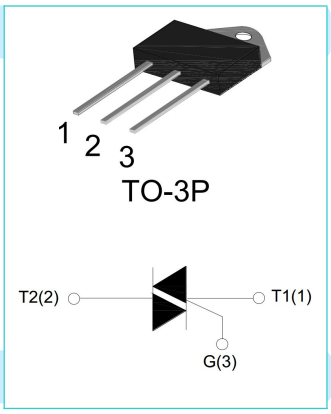
www.ekwin.net

Standard TRIACS

BTA41 Serial

Main Features:

$I_{T(RMS)}$	V_{DRM}/V_{RRM}	V_{TM}
40 A	600/800/1200/1600 V	≤1.5 V



Description:

High current density due to double mesa technology; Glass Passivation.BTA41series TRIACS is suitable for general purpose AC switching.they can be used as an ON/OFF Function in applications such as static relays,heating regulation,induction motor stating circuits..or for phase control operation light dimmers,motor speed controllers.

Absolute Ratings(limiting values) :

Symbol	Parameter		Value	Unit
T_{stg}	Storage junction temperature range		- 40 to + 150	℃
T_j	Operating junction temperature range		- 40 to + 125	℃
$I_{T(RMS)}$	RMS on-state current	TO-3P(Ins) (TC=80℃)	40	A
I_{TSM}	Non repetitive surge peak on-state current (tp=10ms)		400	A
V_{DRM}	Repetitive peak off-state voltage(Tj =25℃)		600/800/1200/1600	V
V_{RRM}	Repetitive peak reverse voltage(Tj =25℃)		600/800/1200/1600	V
V_{DSM}	Non repetitive surge peak Off-state voltage		V_{DRM} + 100	V
V_{RSM}	Non repetitive peak reverse voltage		V_{RRM} + 100	V
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×I_{GT})		50	A/μs

I_{GM}	Peak gate current	4	A
$P_{G(AV)}$	Average gate power dissipation	1	W
P_{GM}	Peak gate power	10	W

Electrical Characteristics : (Tj=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant	Range	Value	Unit
I_{GT}	V_D=12V R_L=33Ω	I-II-III	MAX	50	mA
V_{GT}		I-II-III	MAX	1.3	V
V_{GD}	V_D=V_{DRM} R_L=3.3kΩ T_j=125°C	I-II-III	MIN	0.2	V
I_L	I_G=1.2 I_{GT}	I-III	MAX	80	mA
		II		100	
I_H	I_{TM}= 100mA		MAX	60	mA
dV/dt	V_D=2/3V_{DRM} Gate Open T_j=125°C		MIN	1000	V/μs
(dV/dt)c	Without snubber T_j=125℃		MIN	20	V/μs

Static Characteristics

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM}=60A tp= 380μs	T_j=25°C	1.55	V
I_{DRM} I_{RRM}	V_D=V_{DRM} ,V_R=V_{RRM}	T_j=25°C	10	μA
		T_j=125°C	5	mA

Thermal Resistances :

Symbol	Parameter		Value	Unit
Rth(j-c)	Junction to case for AC	TO-3P(Ins)	0.9	°C/W

Fig.1: Maximum power dissipation versus RMS on-state current

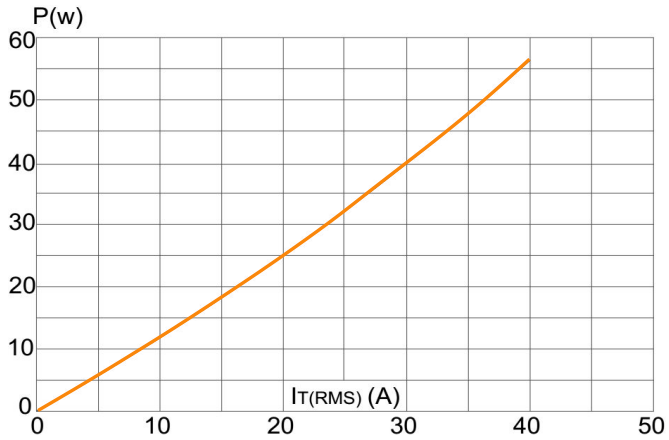


Fig.2 : RMS on-state current versus case temperature

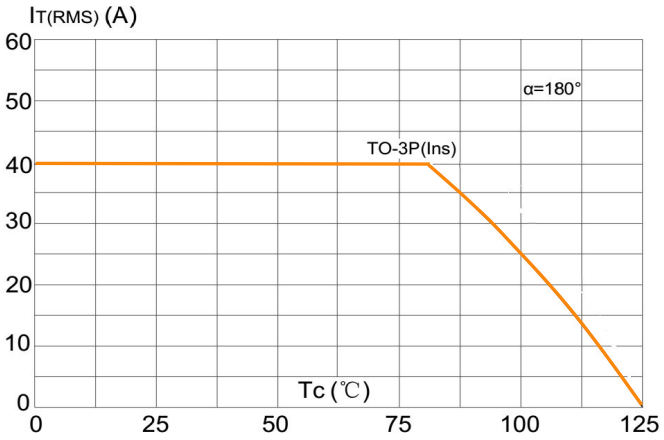


Fig.3 : Surge peak on-state current versus number of cycles

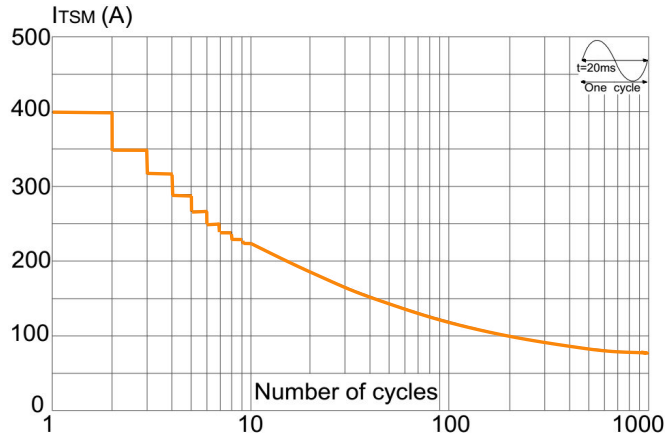


Fig.4 : On-state characteristics (maximum values)

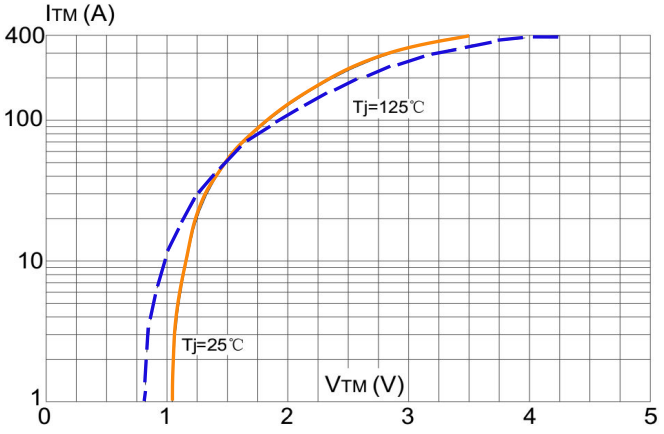


Fig.5 : Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms and corresponding value of I t (dI/dt <50A/μs)

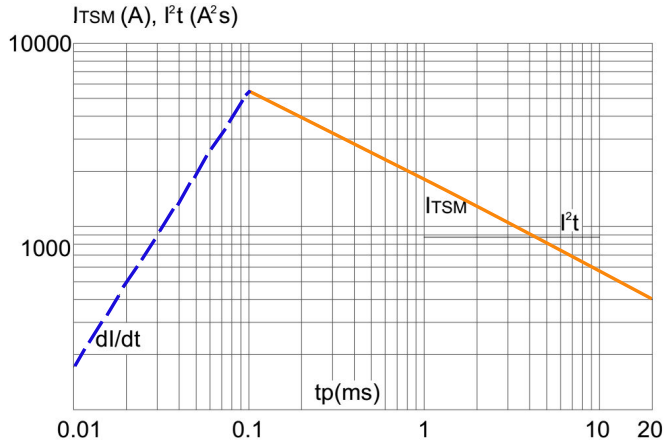
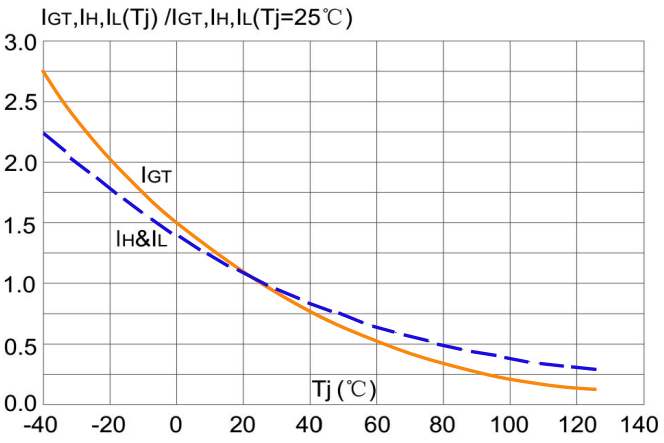


Fig.6: Relative variations of gate trigger current,holding current and latching current versus unction temperature



Ordering Information:

BT A 41 - 600 B

- BT: TRIAC SERIES
- A: A:insulated; B:non-insulated
- 41: $I_{T(RMS)}$:40A
- 600: 600:$V_{DRM}/V_{RRM}\geqslant 600$; 800:$V_{DRM}/V_{RRM}\geqslant 800$; 1200:$V_{DRM}/V_{RRM}\geqslant 1200$; 1600:$V_{DRM}/V_{RRM}\geqslant 1600$
- B: IGT Class

Package Mechanical Data :