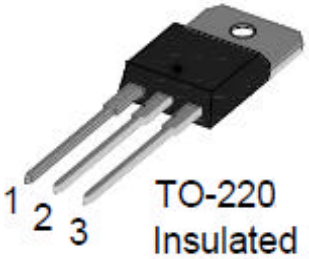
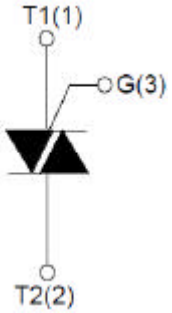
8A TRIACs

BTA08 - 600/800/1200





TO-220
Insulated Plastic Package

BTA08 Series Triacs, with high ability to withstand the shock loading of large current, provide high dV/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 Quadrants products especially recommended for use on Inductive Load. It provides Insulation voltage rated at 2500V RMS from all three terminals to external heatsink complying with UL standards.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive Peak Off-State Voltage (Tj=25°C)	V_{DRM}	600 / 800 / 1200	V
Repetitive Peak Reverse Voltage (Tj=25°C)	V_{RRM}	600 / 800 / 1200	V
Non Repetitive Surge Peak Off-State Voltage	V_{DSM}	V_{DRM} + 100	V
Non Repetitive Peak Reverse Voltage	V_{RSM}	V_{RRM} + 100	V
RMS On-State Current (T_C = 100°C)	$I_{T(RMS)}$	8	A
Non Repetitive Surge Peak On-State Current (Full Cycle, f = 50Hz)	I_{TSM}	80	A
I^2t Value For Fusing (tp=10ms)	I^2t	32	A^2s
Critical Rate of Rise of On-State Current (I_G = 2 X I_{GT})	dI/dt	50	A/µs
Peak Gate Current	I_{GM}	4	A
Average Gate Power Dissipation	$P_{G(AV)}$	1	W
Peak Gate Power	P_{GM}	5	W
Storage Junction Temperarure Range	T_{STG}	-40 to +150	°C
Operating Junction Temperarure Range	T_J	-40 to +125	°C

THERMAL RESISTANCE

Maximum Thermal Resistance Junction to case	$R_{th(j-c)}$	4.0	°C/W

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

3 Quadrants

PARAMETER	TEST CONDITION	SYMBOL	QUADRANT	VALUES BTA08 TW	SW	CW	BW	UNIT
Gate Trigger Current	V_D=12V, R_L=33Ω	I_{GT}	I - II - III	< 5	< 10	< 35	< 50	mA
Gate Trigger Voltage		V_{GT}	I - II - III	< 1.5				V
Off-State Gate Voltage	V_D=V_{DRM}, Tj=125°C, R_L = 3.3KΩ	V_{GD}	I - II - III	> 0.2				V
Latching Current	I_G=1.2 X I_{GT}	I_L	I - III	< 15	< 20	< 50	< 70	mA
			II	< 25	< 35	< 60	< 80	
Holding Current	I_{TM} = 100mA	I_H		< 10	< 15	< 40	< 60	mA
Critical Rate of Rise of Off-State Voltage	V_D = 2/3 V_{DRM}, Gate Open, Tj=125°C	dV/dt		> 50	> 200	> 500	> 1000	V/µs

4 Quadrants

PARAMETER	TEST CONDITION	SYMBOL	QUADRANT	VALUES BTA08 C	B	UNIT
Gate Trigger Current	V_D=12V, R_L=33Ω	I_{GT}	I - II - III	< 25	< 50	mA
			IV	< 50	< 70	
Gate Trigger Voltage		V_{GT}	ALL	< 1.5		V
Off-State Gate Voltage	V_D=V_{DRM}, Tj=125°C, R_L = 3.3KΩ	V_{GD}	ALL	> 0.2		V
Latching Current	I_G=1.2 X I_{GT}	I_L	I - III - IV	< 35	< 50	mA
			II	< 60	< 80	
Holding Current	I_T = 200mA	I_H		< 25	< 50	mA
Critical Rate of Rise of Off-State Voltage	V_D = 2/3 V_{DRM}, Gate Open, Tj=125°C	dV/dt		> 200	> 500	V/µs

STATIC CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL		VALUE BTA08	UNIT
On-State Voltage	I_{TM}=11A, tp=380µs	V_{TM}	T_J=25°C	< 1.55	V
Off-State Leakage Current	V_D = V_{DRM}, V_R = V_{RRM}	I_{DRM} / I_{RRM}	T_J = 25°C	< 5	µA
			T_J = 125°C	< 1	mA

CHARACTERISTICS CURVES

FIG.1 Maximum power dissipation versus RMS on-state current

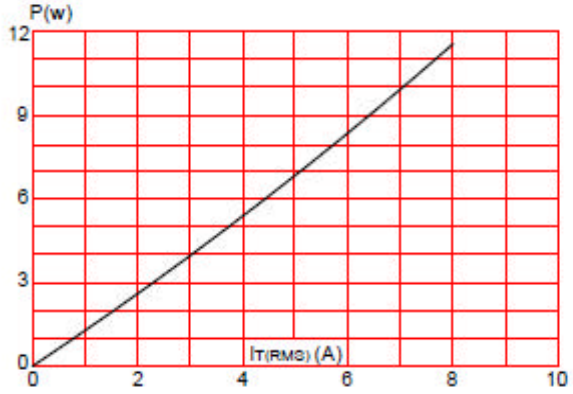


FIG.2: RMS on-state current versus case temperature

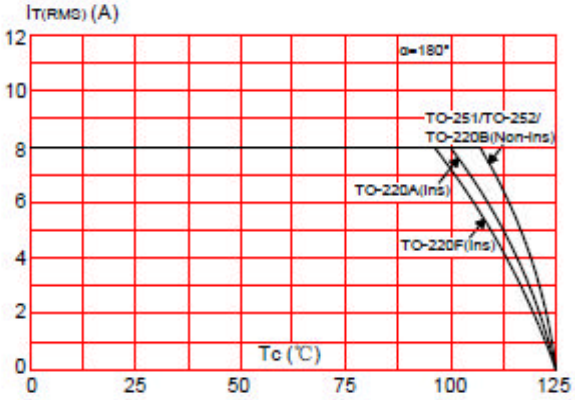


FIG.3: Surge peak on-state current versus number of cycles

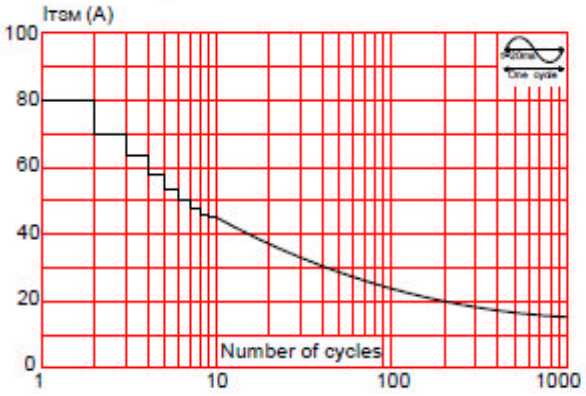


FIG.4: On-state characteristics (maximum values)

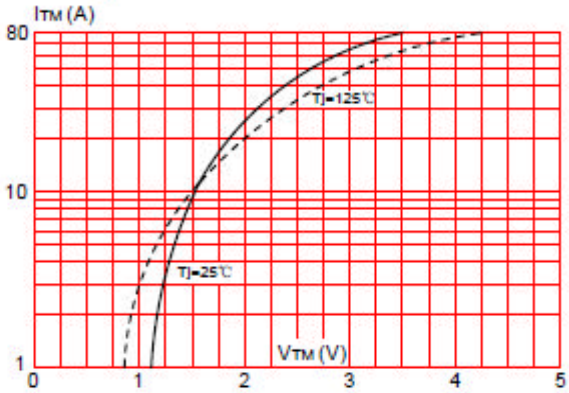


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 50A/μs)

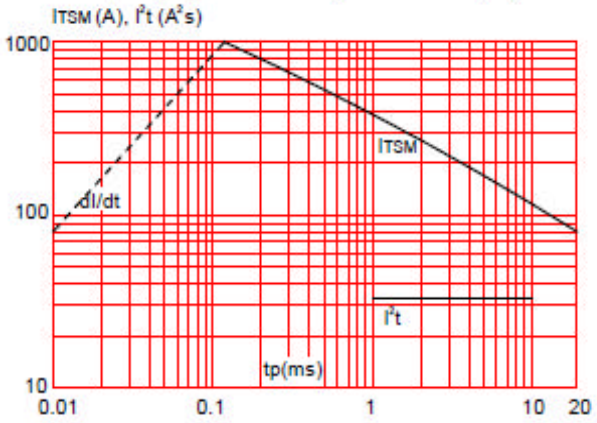
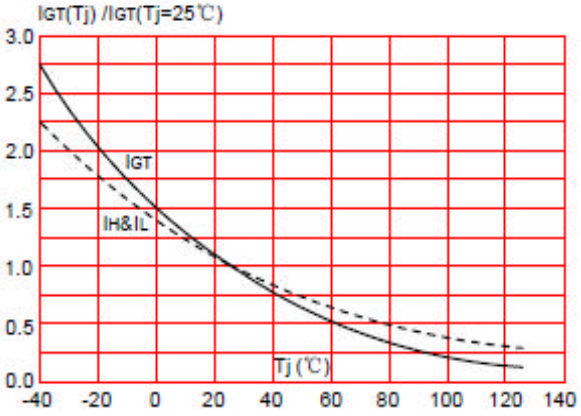
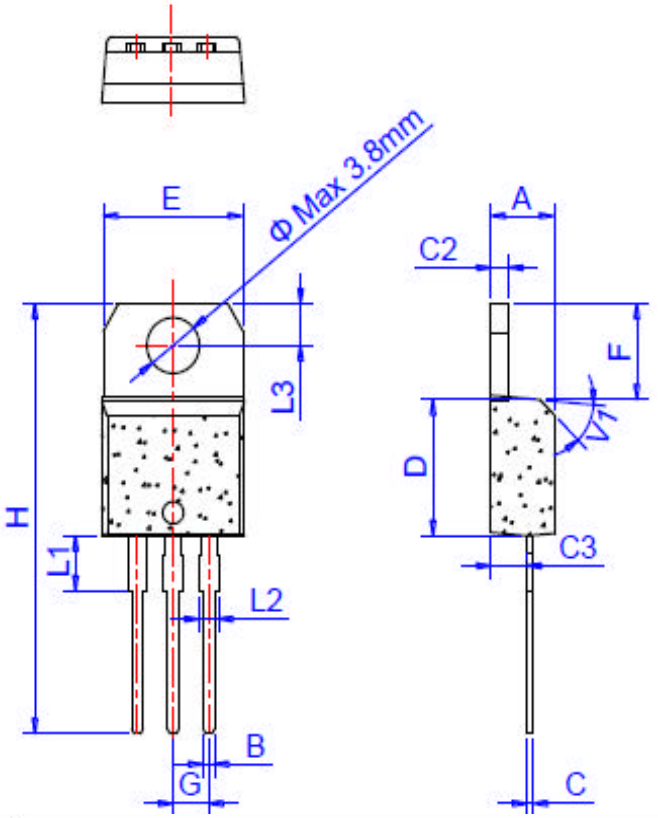


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



TO-220 (INSULATED) PACKAGE OUTLINE AND DIMENSION



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.

2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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