



Features

- ◇ The LGE BTA08/BTB08, 8A III & IV quadrants series triacs, which can be operated in III & IV quadrants. As silicon bidirectional device, with NPNPN five-layer structure; singelsided trenching technology, mesa glass passivation process;
- ◇ multi-layer metallized electrode on the back side;
- ◇ High blocking voltage and high temperature stability.

Applications

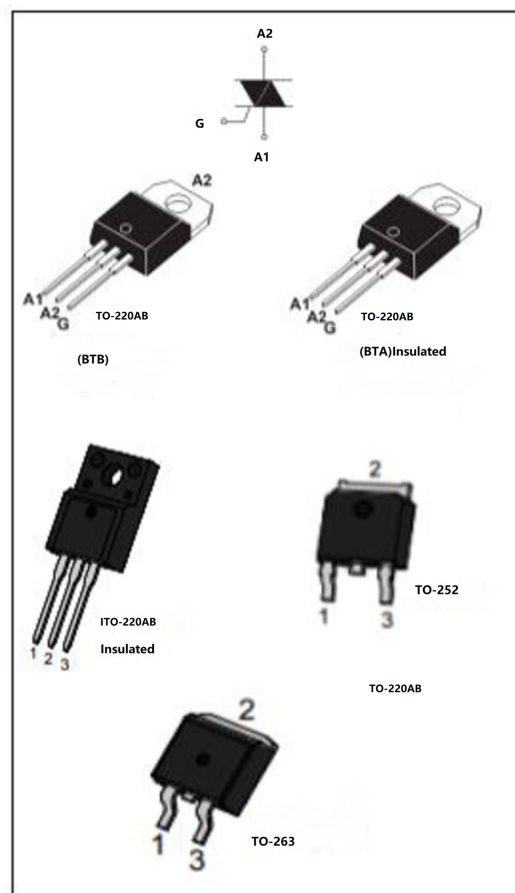
The LGE BTA08/BTB08 is suitable for inductive load switching operations, also can be used in ON/OFF function applications such as washing machine, induction motor starting circuits, vacuum cleaners, power tools and other motors such as speed control maker; heating regulation, solid state relay; phases control circuit; AC motor speed regulation, and so on.

Mechanical Data

- ◇ Moisture Sensitivity: MSL Level 1, per J-STD-020
- ◇ Terminals: Matte Tin Finish.
Solderable per MIL-STD-202 Method 208
- ◇ Case Material: Molded Plastic; Molding compound
- ◇ meet UL Flammability Classification Rating 94V-0
- ◇ Case: JEDEC TO-220AB, ITO-220AB, TO-263, TO-252

MAXIMUM RATING

Ratings at 25°C ambient temperature unless otherwise specified.



PARAMETER			SYMBOL	VALUE	UNITS
R.M.S. On-State Current	BTA BTB	Tc=80℃ Tc=90℃	IT(RMS)	8	A
Non-Repetitive Surge Peak On-State Current(fFull Cycle,Tj initial=25℃)	F=50HZ	T=20ms	ITSM	80	A
	F=60HZ	T=16.7ms		84	
I²t Value for Fusing	tp=10ms		I²t	36	A²s
Critical Rate of Rise of On-State Current IG=2×IGT, tr≤100ns	F=120HZ	Tj=125℃	di/dt	50	A/ μ s
Repetitive peak Off-State voltage		Tj=25℃	VDRM/VRRM	600/800	V
Non repetitive surge peak off-state voltage	tp=10ms	Tj=25℃	VDSM/VRSM	VDRM/VRRM+100	V
Peak Gate Current	tp=20μs	Tj=125℃	IGM	4	A
Average Gate Power Dissipation		Tj=125℃	PG(AV)	1	W
Typical Thermal Resistance(Junction to Ambient)	TO-220AB/TO-263		RθJA	60	℃/W
	TO-220AB Insulated			45	
	TO-252			100	
	TO-220F Insulated			80	
Typical Thermal Resistance(Junction to Case (AC))	TO-220AB/TO-263		RθJC	2.9	℃/W
	TO-220AB Insulated			2.8	
	TO-252			2.0	
	TO-220F Insulated			3.1	
Maximum Operating Junction temperature			TJ	-40~+125	℃
Storage temperature range			TSTG	-40~+150	℃


ELECTRICAL CHARACTERISTICS(III QUADRANTS)

PARAMETER	TEST CONDITIONS	SYMBOL	VALUES					Units
				TW	SW	CW	BW	
Gate Trigger Current	$V_D=12V, R_L=100\ \Omega$	I_{GT}	MAX	5	10	35	50	mA
Gate Trigger Voltage	(I II IIIquadrant)	V_{GT}	MAX	1.5				V
Gate Non-Trigger Voltage	$T_j=125^\circ C$ (I II IIIquadrant)	V_{GD}	MIN	0.2				V
Holding Current $I_T=0.5A$		I_H	MAX	10	20	40	60	mA
Latching Current $I_G=1.2I_{GT}$	I III quadrant	I_L	MAX	20	25	50	70	mA
	II quadrant		MAX	25	35	70	90	
Critical Rate of Rise of Off-State Voltage $V_D=2/3V_{DRM}, T_j=125^\circ C$		dv/dt	MIN	200	500	1000	1500	V/ μs
Critical Rate of Rise of Off-State Voltage at Commutation, $T_j=125^\circ C$		$(dv/dt)_c$	MIN	10	10	10	10	V/ μs

ELECTRICAL CHARACTERISTICS(IV QUADRANTS)

PARAMETER	TEST CONDITIONS		SYMBOL	VALUE			Units
					C	B	
Gate Trigger Current	$V_D=12V, R_L=100\ \Omega$ (I II IIIIV quadrant)	I II III	I_{GT}	MAX	25	50	mA
		IV		MAX	50	70	
Gate Trigger Voltage		All	V_{GT}	MAX	1.5		V
Gate Non-Trigger Voltage	$T_j=125^\circ C$ (I II IIIquadrant)		V_{GD}	MIN	0.2		V
Holding Current $I_T=0.5A$			I_H	MAX	40	60	mA
Latching Current $=1.2I_{GT}$	I III IVquadrant	I_L		MAX	50	70	mA
	II quadrant			MAX	70	90	
Critical Rate of Rise of Off-State Voltage $V_D=2/3V_{DRM}, T_j=125^\circ C$			dv/dt	MIN	200	500	V/ μs
Critical Rate of Rise of Off-State Voltage at Commutation, $T_j=125^\circ C$			$(dv/dt)_c$	MIN	10	10	V/ μs

STATIC CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL		VALUE	UNITS
Peak On-State Voltage	$I_{TM}=11A, T_j=25^\circ C$	V_{TM}	MAX	1.50	V
Threshold Voltage	$T_j=125^\circ C$	V_{TO}	MAX	0.80	V
Dynamic Resistance	$T_j=125^\circ C$	R_d	MAX	50	m Ω
Repetitive Peak Off-Statte Curren $V_{DRM}=V_{RRM}$	$T_j=25^\circ C$	I_{DRM}/ I_{RRM}	MAX	5	μA
	$T_j=125^\circ C$	I_{DRM}/ I_{RRM}	MAX	1	mA

RATING AND CHARACTERISTICS CURVES

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



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

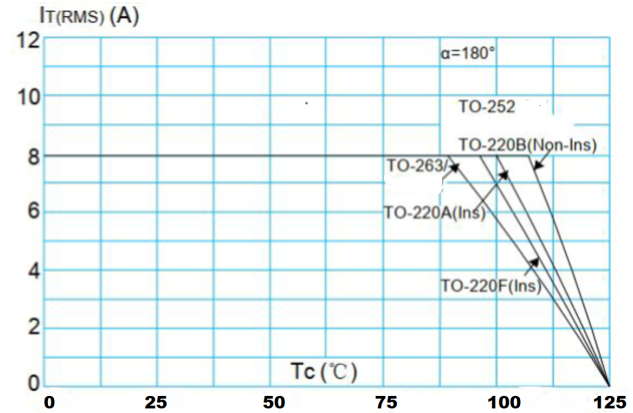


FIG.3: Surge peak on-state current versus number of cycles

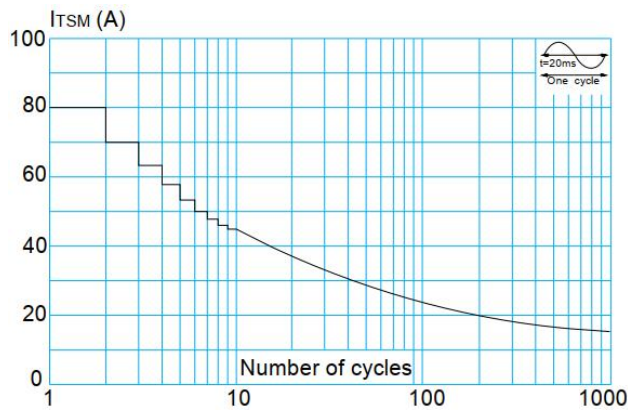


FIG.4: On-state characteristics (maximum values)

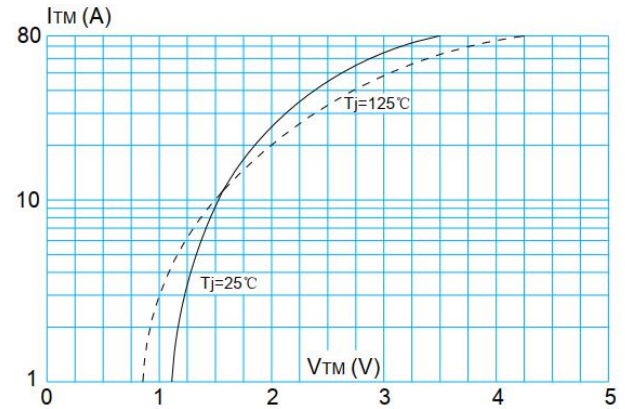


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II - III: $dI/dt < 50\text{A}/\mu\text{s}$; IV: $dI/dt < 10\text{A}/\mu\text{s}$)

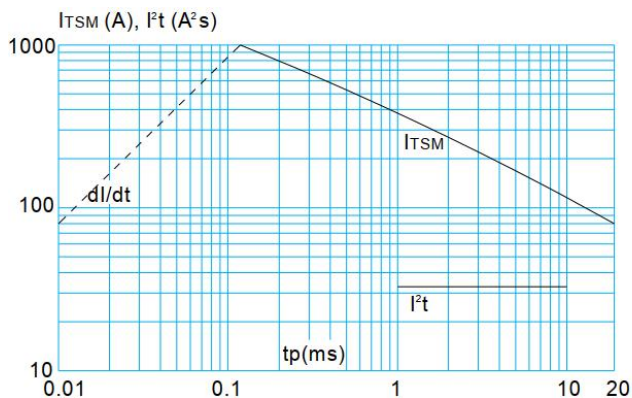
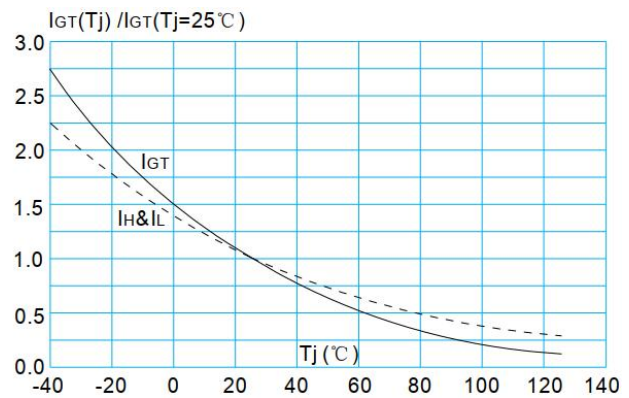
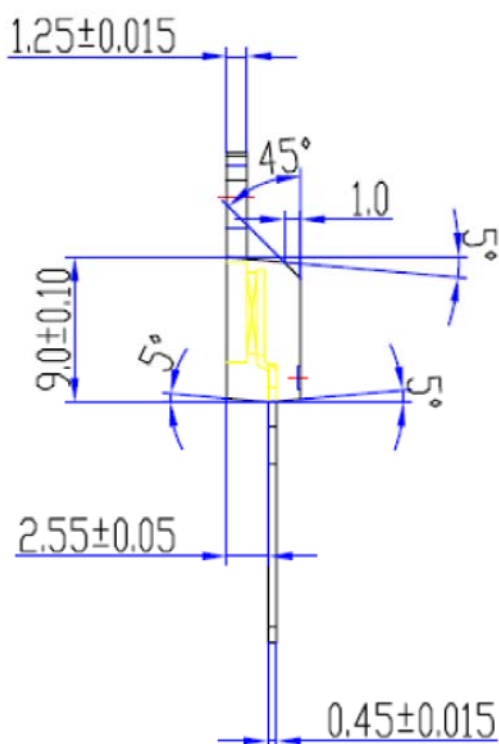
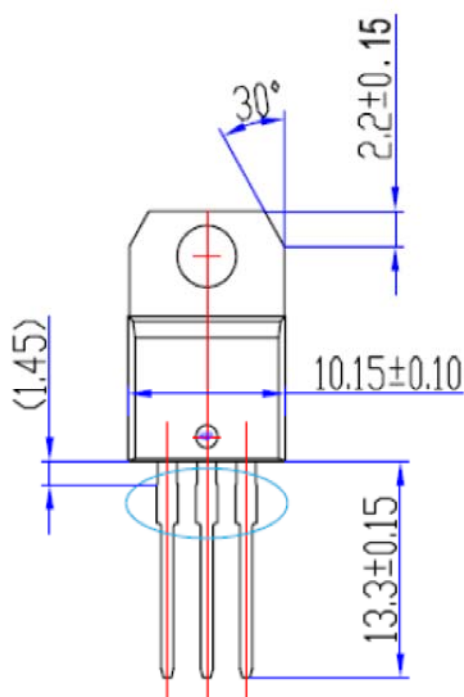
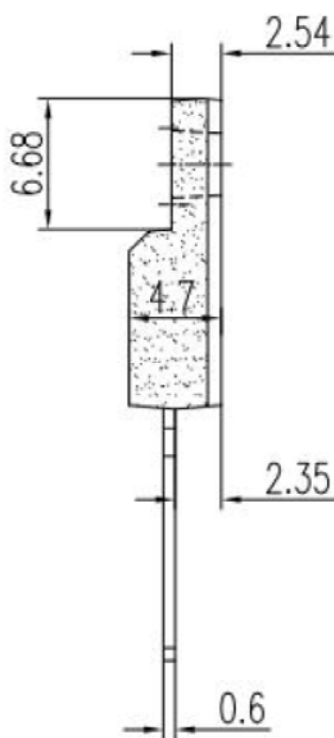
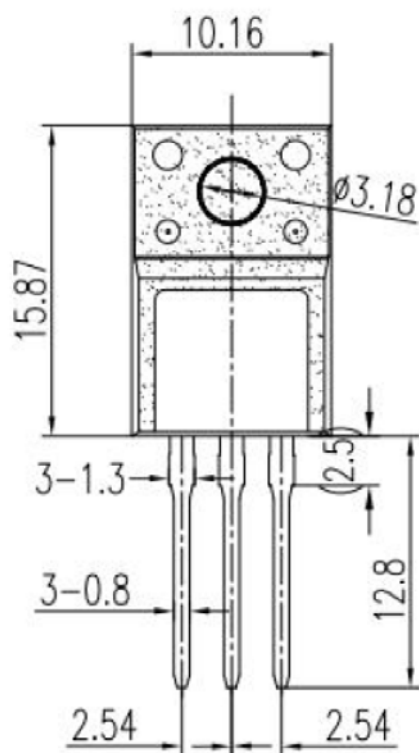


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

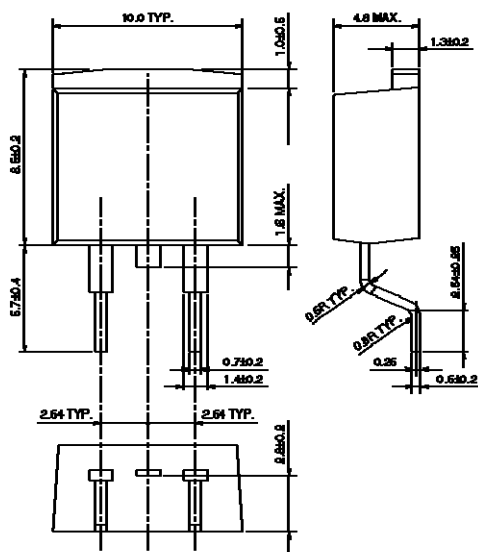


PACKAGE OUTLINE DIMENSIONS
TO-220AB units:mm

TO-220F units:mm(± 0.10)


PACKAGE OUTLINE DIMENSIONS

TO-263 units:mm(± 0.10)

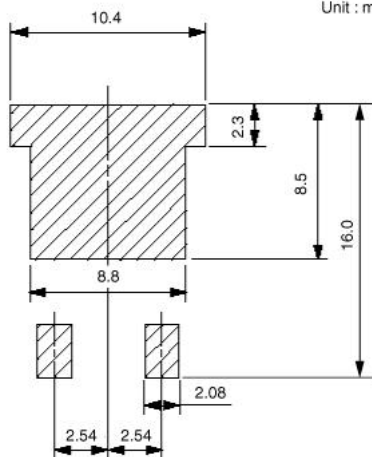
UNIT: mm



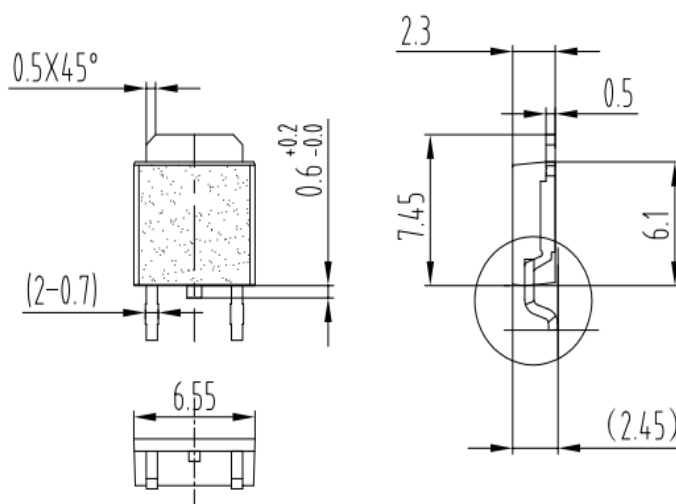
: The area without solder plated

Suggestes Pad Layout TO-263

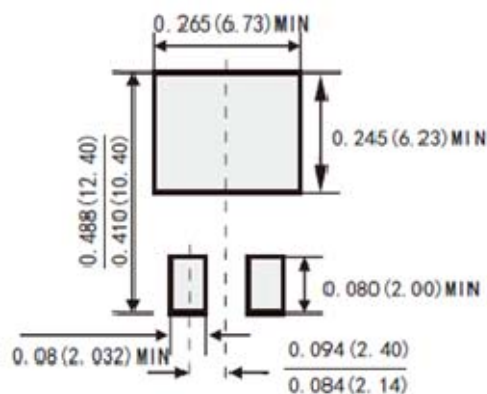
Unit : mm



TO-252



Suggestes Pad Layout TO-252



ORDERING INFORMATION

	<u>BT</u>	<u>A</u>	<u>08</u>	-	<u>800</u>	-	<u>BW</u>
<u>Triac</u>							
<u>Insulation</u> A=Insulated B=Non-insulated							
<u>Current</u> 16=16A							
<u>Voltage</u> 600=600V 800=800V							
<u>Sensitivity and Type</u> B=50mA BW=50mA C=25mA CW=35mA Tw=5mA Sw=10mA							