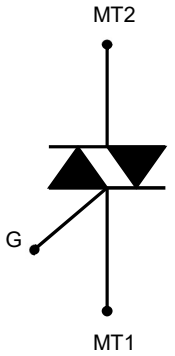
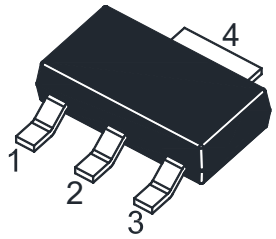
BTA01-800Q-HAF

Silicon Bidirectional Thyristors





1.Main Terminal 1
2.Main Terminal 2 3.Gate
SOT-223 Plastic Package

Features

- High blocking voltge capability
- Halogen and Antimony Free(HAF), RoHS compliant

Applications

- General purpose low power motor control
- Industrial process control
- Low power AC Fan controllers
- Home appliances

Absolute Maximum Ratings (T_J = 25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive Peak off-State Voltage	V_{DRM}	800	V
Repetitive Peak Reverse Voltage	V_{RRM}	800	V
RMS on-State Current Full Sine Wave, T_{sq} ≤ 105 ℃	$I_{T(RMS)}$	1	A
Peak Non-repetitive Surge Current Full Sine Wave, t_p = 20 ms	I_{TSM}	9	A
Circuit Fusing Considerations t_p = 10 ms, sine-wave pulse	I^2t	0.32	A^2s
Critical Rate-of-Rise of on-Sate Current at I_T = 1 A, I_G = 20 mA, dI_G/dt = 0.1 A/μs T2+G+ T2+G- T2-G- T2-G+	dI/dt	50 50 50 20	A/μs
Peak Gate Current	I_{GM}	1	A
Peak Gate Power	P_{GM}	2	W
Average Gate Power Dissipation (Over any 20 ms period)	$P_{G(AV)}$	0.1	W
Operating Junction Temperature Range	T_J	125	℃
Storage Temperature Range	T_{Stg}	- 40 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient [1)]	$R_{\theta JA}$	70	°C/W

[1)] Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.

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Characteristics at T_j = 25℃ unless otherwise specified

Parameter		Symbol	Min.	Max.	Unit
Peak Forward or Reverse Blocking Current at V_{DRM} / V_{RRM}, T_j = 125°C		I_{DRM}, I_{RRM}	-	0.5	mA
Peak Forward on-State Voltage at I_T = 1.4 A		V_T	-	1.6	V
Gate Trigger Current at V_D = 12 V, I_T = 0.1 A	T2+G+ T2+G- T2-G- T2-G+	I_{GT}	- - - -	10 10 10 10	mA
Holding Current at V_D = 12 V		I_H	-	10	mA
Latching Current at V_D = 12 V, I_G = 0.1 A	T2+G+ T2+G- T2-G- T2-G+	I_L	- - - -	15 25 15 15	mA
Gate Trigger Voltage at V_D = 12 V, I_T = 0.1 A, T_j = 25°C at V_D = 800 V, I_T = 0.1 A, T_j = 125°C		V_{GT}	- 0.2	1.3 -	V
Rate of Rise of Off-State Voltage at V_{DM} = 536 V, T_j = 110°C, gate open circuit		dV_D/dt	50	-	V/μs

Electrical Characteristics Curves

Fig.1 RMS on-State Current vs.T_{sq}

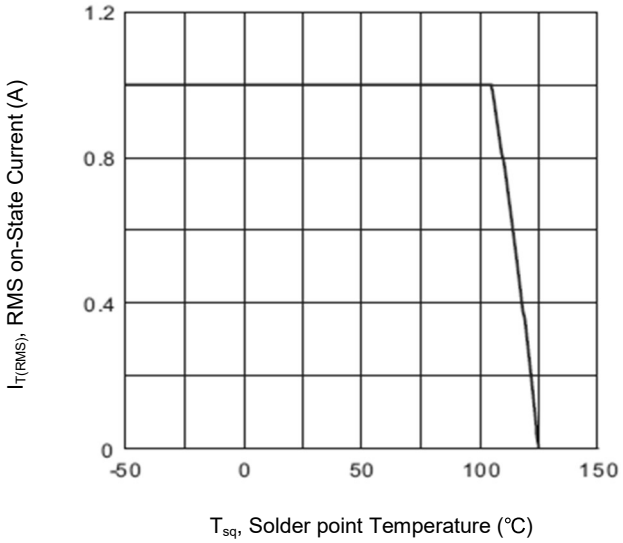


Fig.2 RMS on-State Current vs. Surge duration

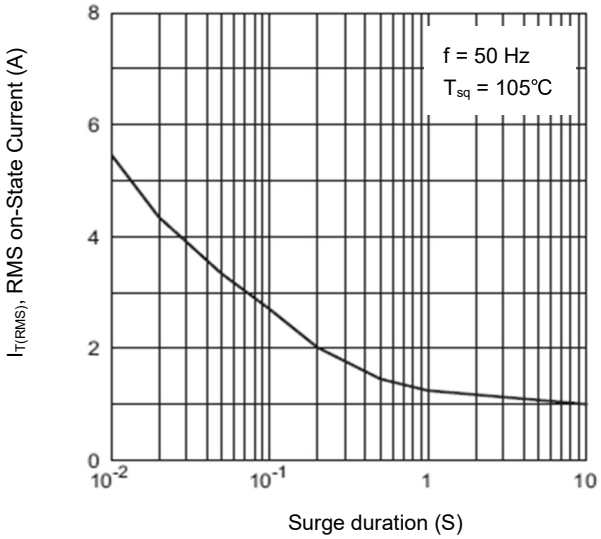
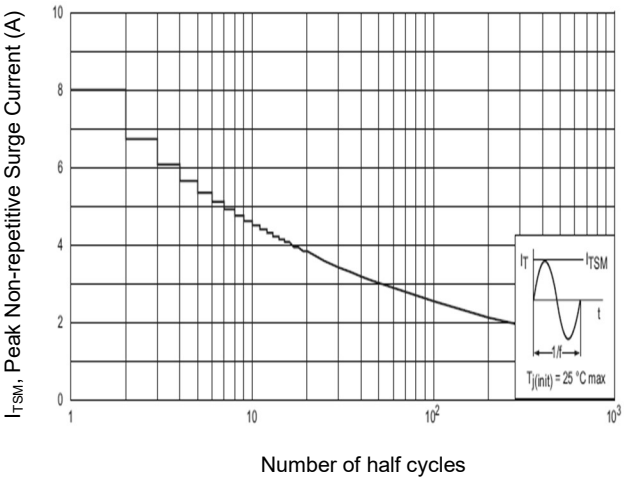
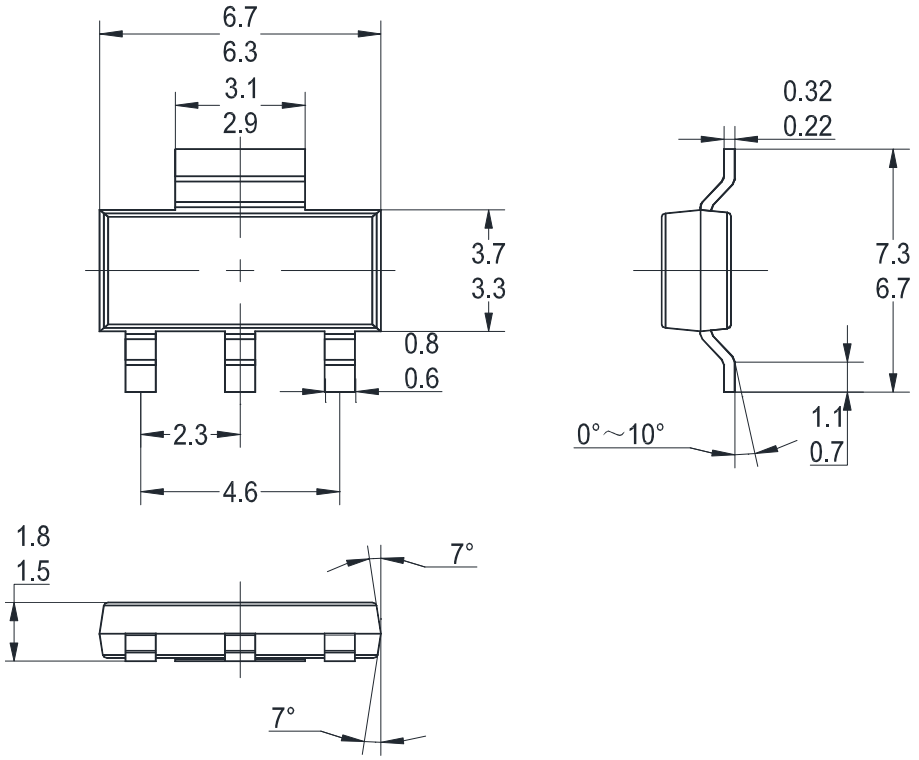


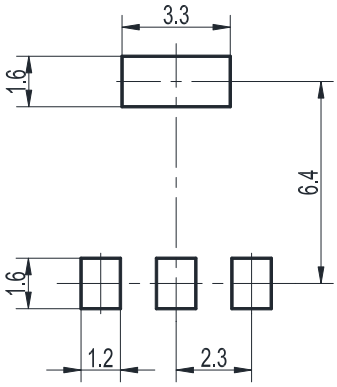
Fig.3 Surge Peak on-State Current vs. number of Cycles



Package Outline (Dimensions in mm) SOT-223



Recommended Soldering Footprint

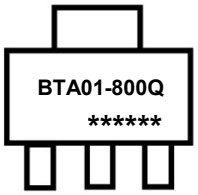


Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-223	12	8 ± 0.1	0.315 ± 0.004	330	13	3,000

Marking information

" BTA01-800Q " = Part No.
" ****** " = Date Code Marking
Font type: Arial



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