

**TRIACS
SILICON BIDIRECTIONAL THYRISTORS**

**TRIACS
1 AMPERES RMS
800 VOLTS**

FEATURES

- Passivated die for reliability and uniformity
- Three-quadrant triggering Triac
- Over 800V V_{DRM}/V_{RRM}
- Low level triggering and holding characteristics
- Logic control compatible
- False turn-on voltage up 600V by dv/dt

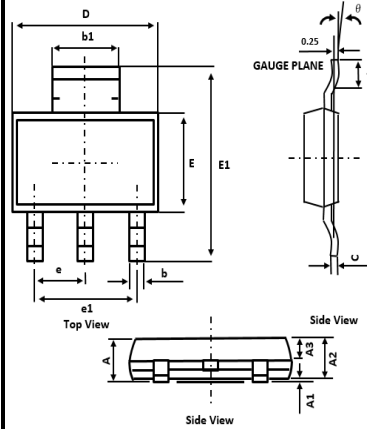
APPLICATION

- General purpose motor control
- Small loads in washing machines
- Solenoid drivers
- Digital control drivers

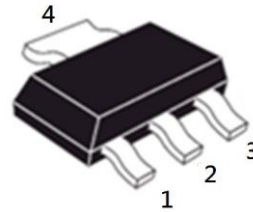
MECHANICAL DATA

- Case material: Molded plastic

SOT-223



SOT-223			
DIM	MIN	MAX	TYP.
A	--	--	1.80
A1	0.00	0.05	0.10
A2	1.5	1.60	1.70
A3	0.85	0.90	0.95
b	0.66	0.70	0.80
b1	2.96	3.00	3.10
C	0.30	0.305	0.31
D	6.30	6.50	6.70
E	3.30	3.50	3.70
E1	6.80	7.00	7.20
e1	4.40	4.60	4.80
L	0.90	--	1.15
θ	0°	5°	10°
e	2.3 BSC		
All Dimensions in millimeter.			



PIN ASSIGNMENT	
1	Main terminal 1
2	Main terminal 2
3	Gate
4	Main terminal 2

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Peak repetitive off-state voltage ($T_J = -40$ to 125°C , sine wave, 50 to 60 Hz; gate open)	V_{DRM} V_{RRM}	800 800	V
On-stage RMS current (full sine wave, $T_c = 105^\circ\text{C}$)	$I_T(\text{RMS})$	1	A
Peak non-repetitive surge current (one full cycle 60 Hz, $T_J = 25^\circ\text{C}$)	I_{TSM}	13.8	A
Circuit fusing consideration ($t = 8.3\text{ms}$)	I^2T	0.79	A^2S
Peak gate current	I_{GM}	1	A
Peak gate power	P_{GM}	2	W
Operating junction temperature range	T_J	-40 to +125	$^\circ\text{C}$
Storage temperature range	T_{STG}	-40 to +150	$^\circ\text{C}$

REV.0, OCT-2020, KTXE06

Please be aware that an **Important Notice and Disclaimer** concerning availability, disclaimers, and use in Critical applications of LSC products thereto appears at the end of this Data Sheet

RATING AND CHARACTERISTIC CURVES
T1M10T800G



THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Junction to case with heatsink	RthJc	60	°C/W
Junction to ambient with heatsink	RthJa	90	°C/W
Maximum lead temperature for soldering purposes (1/8" form case for 10 seconds)	TL	260	°C

OFF CHARACTERISTICS

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Peak repetitive forward or reverse blocking current (V _{AK} = rated V _{DRM} and V _{RRM} , gate open)	I _{DRM} I _{RRM}	--	--	5	µA
				0.5	mA

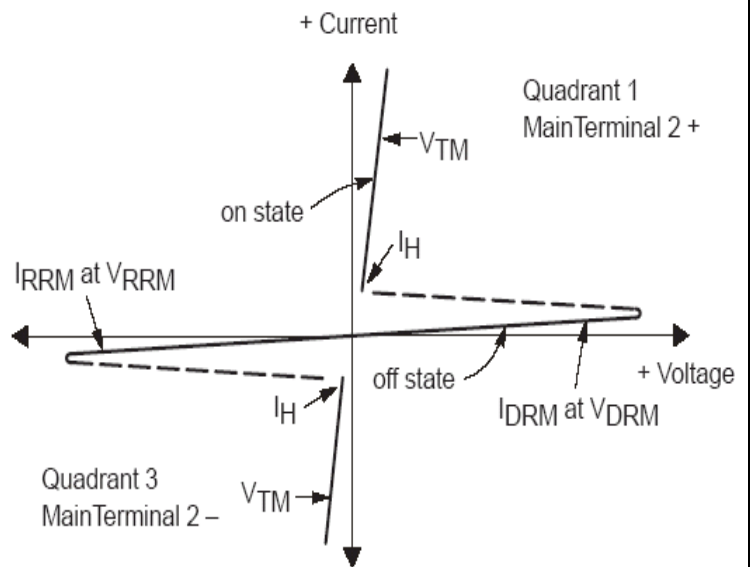
ON CHARACTERISTICS

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Peak forward on-state voltage (I _{TM} = 1A @ T _J = 25°C)	V _{TM}	--	1.2	1.5	V
Gate trigger current (V _{AK} = 12V, R _L =100Ω)	I _{GT1} I _{GT2} I _{GT3}	--	--	10	mA
Gate trigger voltage (V _{AK} = 12V, R _L =100Ω)	V _{GT1} V _{GT2} V _{GT3}	--	--	1	V
Holding current (V _{AK} = 12V, R _L =100Ω)	I _{H1} I _{H3}	--	--	12	mA
Latching current (V _{AK} = 12V, R _L =100Ω)	I _{L1} I _{L2} I _{L3}	--	--	12 35 12	mA

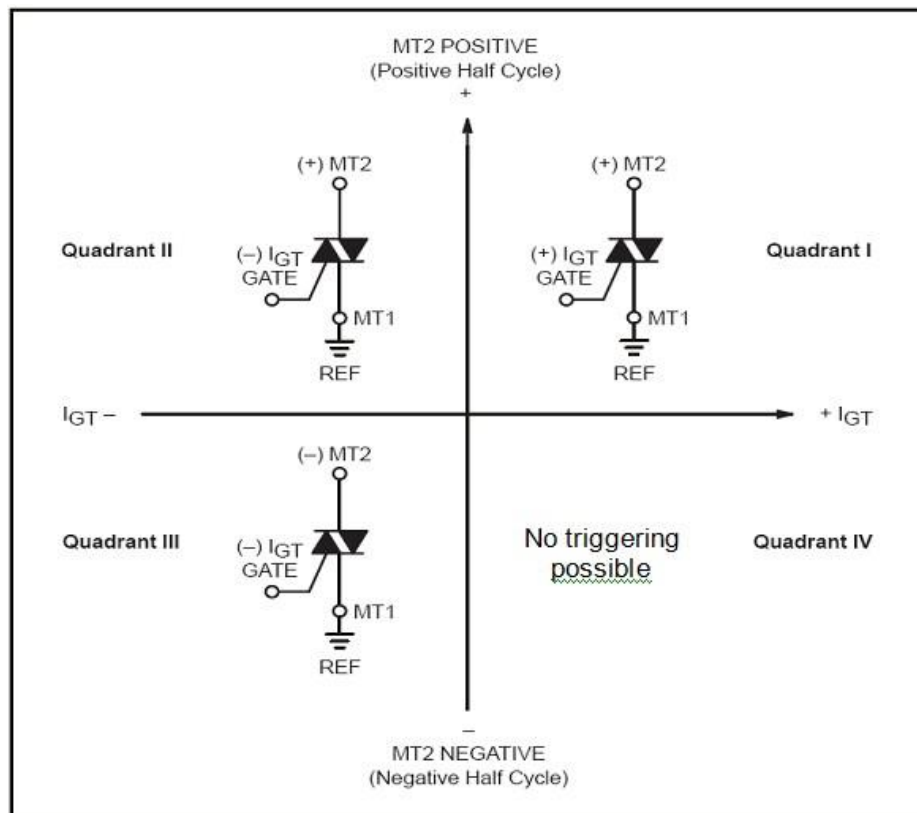
DYNAMIC CHARACTERISTICS

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Critical rate of rise of off-stage voltage (V _{AK} = 67% rated V _{DRM} , exponential waveform @ T _J = 125°C, gate open)	dv/dt	600	--	--	V/µs

Symbol	Parameter
V_{DRM}	Peak Repetitive Forward Off State Voltage
I_{DRM}	Peak Forward Blocking Current
V_{RRM}	Peak Repetitive Reverse Off State Voltage
I_{RRM}	Peak Reverse Blocking Current
V_{TM}	Maximum On State Voltage
I_H	Holding Current



Quadrant Definitions



All polarities are referenced to MT1
With in-phase signal (using standard AC lines) quadrants I and III are used

Fig.1- Holding Current Variation

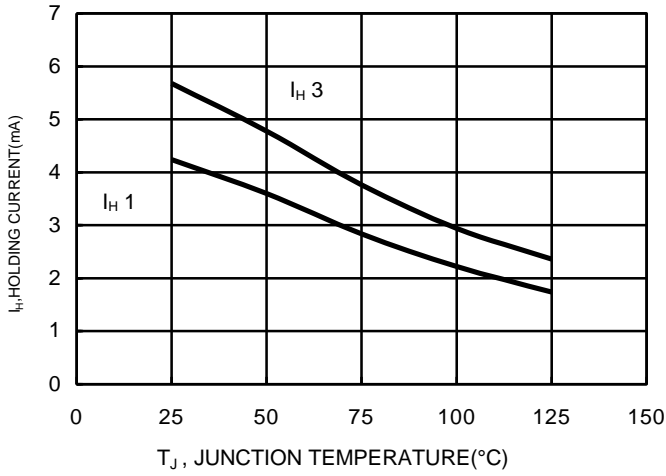


Fig.2- Gate Trigger Current Variation

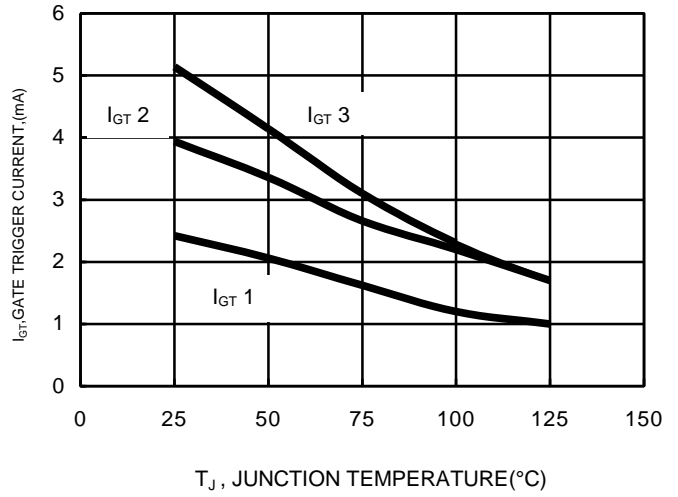


Fig.3- Gate Trigger Voltage Variation

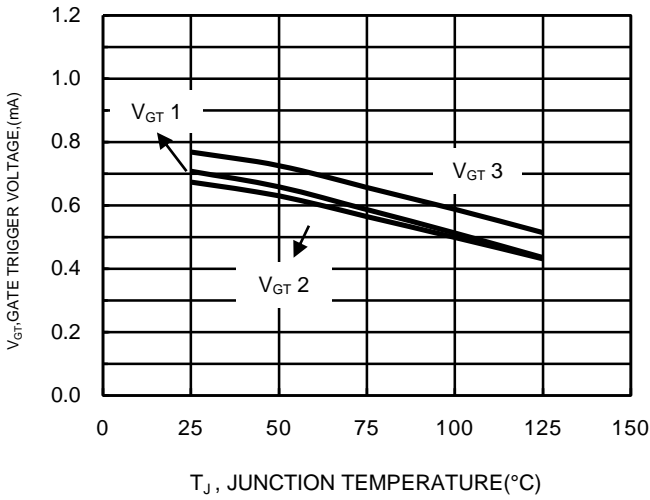


Fig.4- Typical Latching Current Versus Junction Temperature

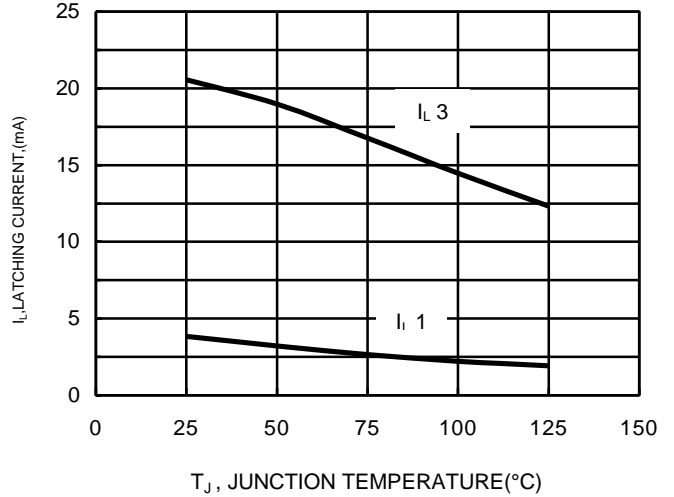


FIG.5- On-state characteristics

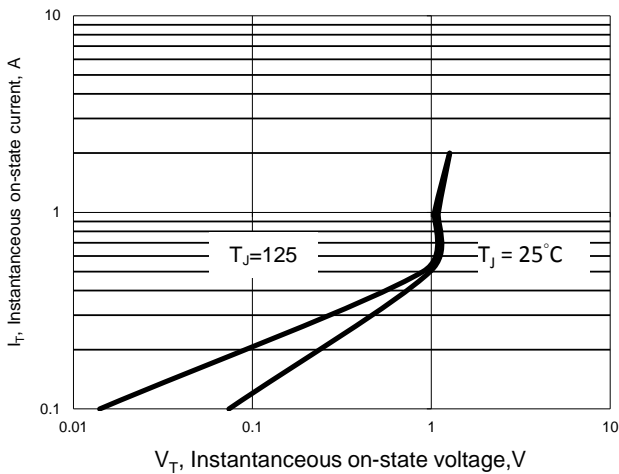


Fig.6- Power Dissipation versus I_T

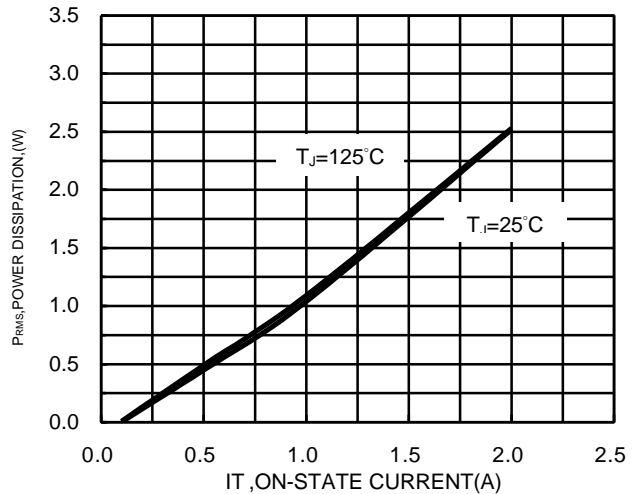
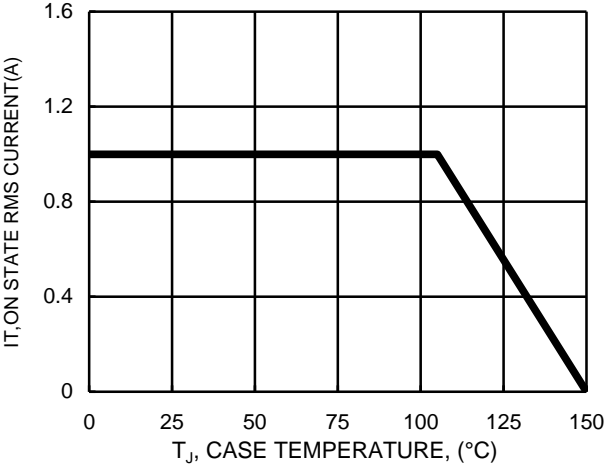


Fig.7- On-state Current Derating Curve



IMPORTANT NOTICE AND DISCLAIMER

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design purchase or use.

ALL INFORMATION ARE PROVIDED AS-IS, EVEN IT HAS QUALIFIED BY THE AEC-Q101 WHICH SATISFY INDUSTRIAL APPLICATION REQUIREMENT, EXCEPT AS EXPRESSLY STATED IN THIS DATA SHEET IS APPLIED FOR AUTOMOTIVE GRADE, LSC MAKE NO WARRANTIES, REPRESENTATION OR GUARANTEE, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, REGARDING ANY MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE LSC TECHNOLOGY.

LSC DOES NOT ASSUME ANY LIABILITY OR COMPENSATION FOR ANY APPLICATION ASSISTANCE OR CUSTOMER PRODUCT DESIGN, AND MAKE NO WARRANTY OR ACCEPT ANY LIABILITY WITH PRODUCTS, WHICH ARE PURCHASED OR USED FOR ANY UNINTENDED OR UNAUTHORIZED APPLICATION.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.