

**Sensitive Gate
Silicon Controlled Rectifiers
Reverse Blocking Thyristors**

SCRs
0.8 AMPERES RMS
400 VOLTS

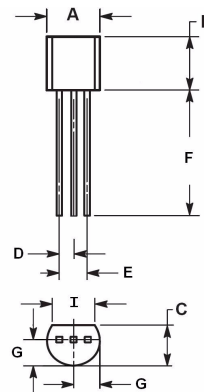
FEATURES

- Sensitive Gate Allows Triggering by Microcontrollers and Other logic Circuits
- Blocking Voltage to 400 Volts
- On - State Current Rating of 0.8 Amperes RMS at 80°C
- High Surge Current Capability — 10 Amperes
- Minimum and Maximum Values of IGT, VGT and IH Specified for Ease of Design
- Immunity to dV/dt — 20 V/us Minimum at T_J=110°C
- Glass-Passivated Surface for Reliability and Uniformity
- Pb-Free Package

MECHANICAL DATA

- Case: Molded plastic
- Weight: 0.007 ounces, 0.2 grams

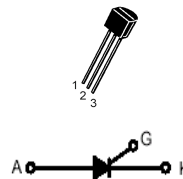
TO-92 (TO-226AA)



TO-92		
DIM.	MIN.	MAX.
A	4.45	4.70
B	4.32	5.33
C	3.18	4.19
D	1.15	1.39
E	2.42	2.66
F	12.7	----
G	2.04	2.66
I	3.43	----

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Cathode
2	Gate
3	Anode



MAXIMUM RATINGS (T_J= 25°C unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Repetitive Off - State Voltage (T _J = -40 to 110°C, Sine Wave, 50 to 60 Hz; Gate Open)	V _{DRM} V _{RRM}	400	Volts
On-State RMS Current (T _c = 80°C) 180° Conduction Angles	I _{T(RMS)}	0.8	Amps
Peak Non-Repetitive Surge Current (1/2 Cycle, Sine Wave, 60 Hz, T _J = 25°C)	I _{TSM}	10	Amps
Circuit Fusing Consideration (t = 8.3 ms)	I ² t	0.415	A ² s
Forward Peak Gate Power (T _a = 25°C, Pulse Width ≤ 1.0 us)	P _{GM}	0.1	Watts
Forward Average Gate Power (T _a = 25°C, t = 8.3 ms)	P _{G(AV)}	0.1	Watts
Forward Peak Gate Current (T _a = 25°C, Pulse Width ≤ 1.0 us)	I _{GM}	1	Amps
Reverse Peak Gate Voltage (T _a = 25°C, Pulse Width ≤ 1.0 ms)	V _{GRM}	5	Volts
Operating Junction Temperature Range @ Rate V _{RRM} and V _{DRM}	T _J	-40 to + 110	°C
Storage Temperature Range	T _{stg}	-40 to + 150	°C

REV. 1, Oct-2010, KTXD24

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance – Junction to Case	RthjC	75	°C/W
Maximum Lead Temperature for Soldering Purposes 1/16" from Case for 10 Seconds	TL	260	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit
----------------	--------	-----	-----	-----	------

OFF CHARACTERISTICS

Peak Repetitive Forward or Reverse Blocking Current (VD=Rated VDRM and VRRM; RGK =1K Ohms)	TJ=25°C TJ=110°C	IDRM IRRM	---	---	10 100	uA
---	---------------------	--------------	-----	-----	-----------	----

ON CHARACTERISTICS

Peak Forward On-State Voltage (ITM= ± 1.6A Peak, Pulse Width ≤ 1.0ms, Duty Cycle ≤ 1%)		VTM	---	---	1.7	Volts
Gate Trigger Current(VD= 7.0 Vdc, RL=100 Ohms) (1)		IGT	---	---	50	uA
Holding Current(VD= 7.0 Vdc, Initiating Current = 20mA)	TJ= 25°C TJ= -40°C	IH	---	---	5 10	mA
Gate Trigger Voltage(VD= 7.0 Vdc, RL=100 Ohms) (1)	TJ= 25°C TJ= -40°C	VGT	---	---	0.8 1.2	Volts
Latch Current(VD= 7.0 Vdc, RL 100 Ohms)	TJ= 25°C TJ= -40°C	IL	---	---	10 15	mA

DYNAMIC CHARACTERISTICS

Critical Rate of Rise of Off-State Voltage (VD=Rated VDRM, Exponential Waveform, PGK=1K Ohms, TJ=110°C)		dv/dt	20	---	---	V/us
--	--	-------	----	-----	-----	------

(1) RGK current is not included in measurement

Voltage Current Characteristic of SCR

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

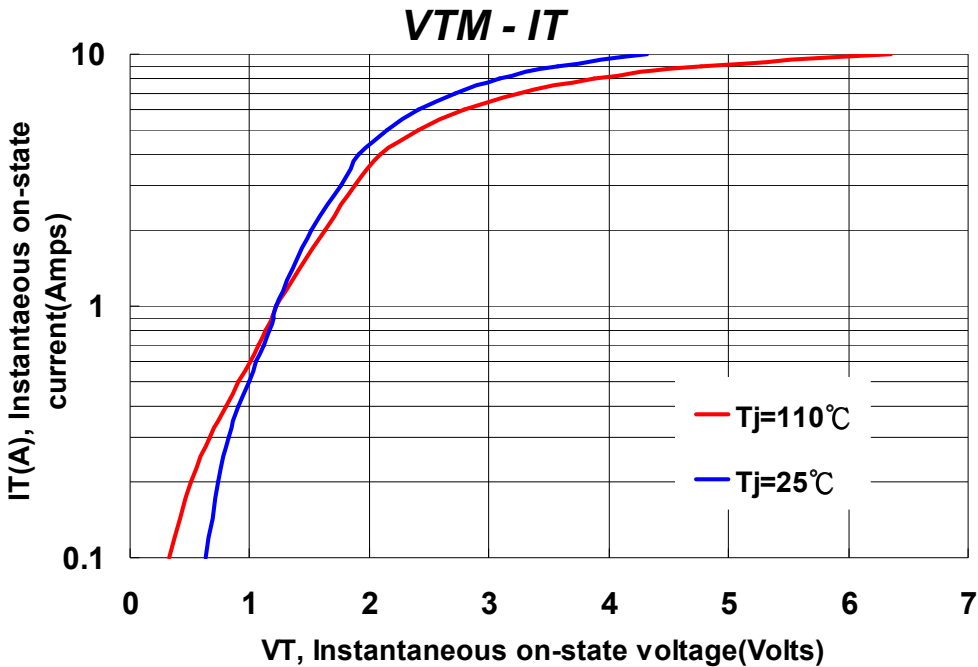
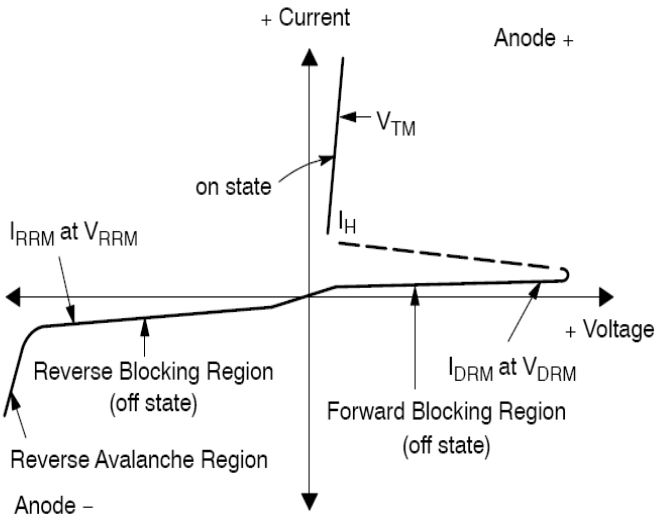


Figure 1. On-State Characteristics

Typical gate trigger current V.S. junction temperature

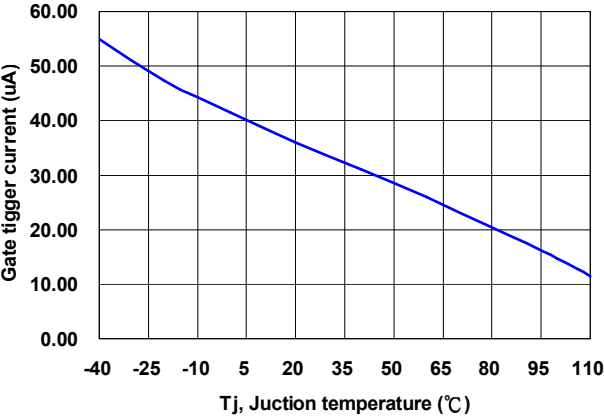


Figure 2. IGT(T_J) / IGT(25°C) versus T_J

Typical gate trigger voltage V.S. junction temperature

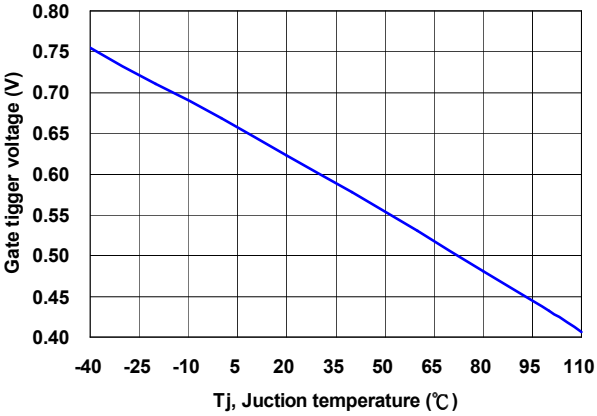


Figure 3. VGT(T_J) / VGT(25°C) versus T_J

Typical holding current V.S. junction temperature

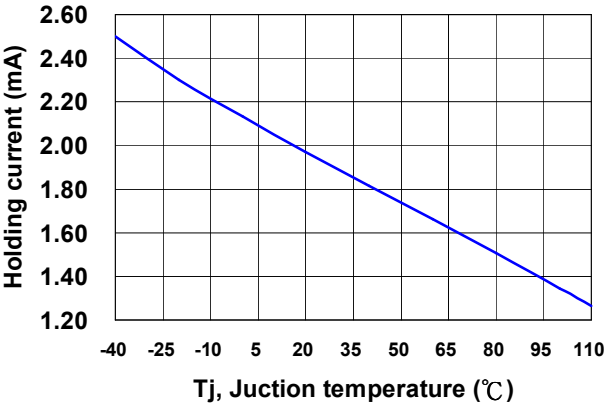


Figure 4. I_H versus T_J

Typical latch current V.S. junction temperature

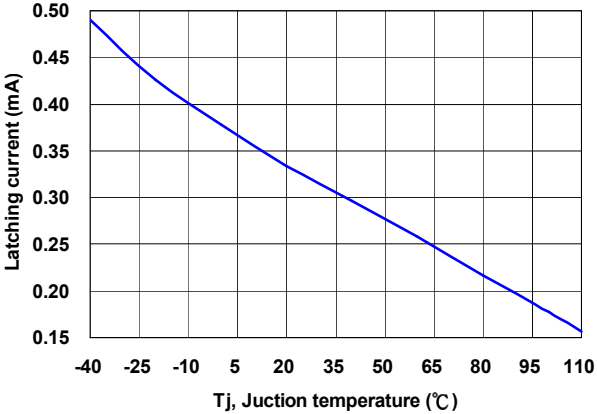


Figure 5. I_L versus T_J

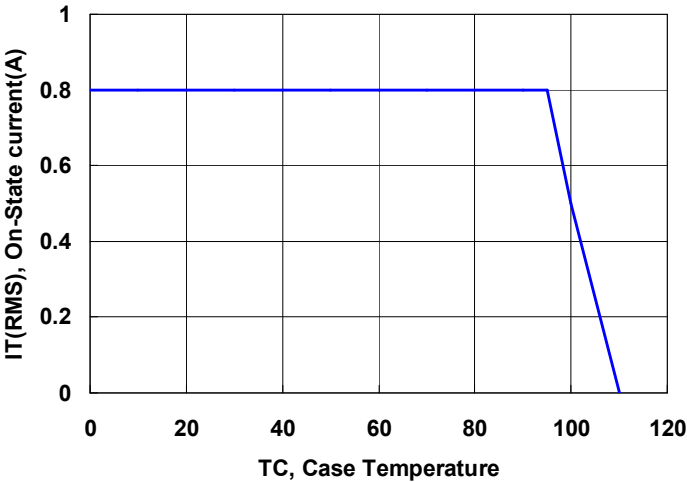


Figure 6. On-Stage Current Rating Curve

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.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant 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.