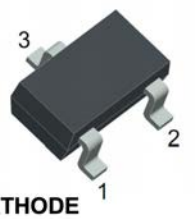
NYC0102BLT1G

Silicon Controlled Rectifier

Features

- Current-I_{GT} : 200 μA
- I_{TRMS} : 0.8 A
- VRRM/ V_{DRM} : 400 V
- Operating and storage junction temperature range
  T_J , T_{stg} : -55℃ to +150℃

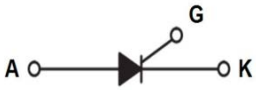


1.KATHODE
2.GATE
3.ANODE

SOT-23

Typical Applications

- Motor control
- Line-powered consumer applications
- Capacitive discharge ignitions



Absolute Maximum Ratings (unless otherwise specified)

Symbol	Parameter	NYC0102BLT1G	Unit
V_{DRM}	Repetitive Peak Off-stage Voltage	400	V
IT_{RMS}	Collector-Base Voltage	0.8	A
I_{DM}	Gate Trigger Current	200	uA
P_D	Junction Temperature Range	+150	W
T_J/T_{STG}	Storage Temperature Range	-55 to +150	°C

Thermal Resistance Ratings

Symbol	Parameter	Maximum	Units
$R_{\theta Ja}$	Maximum Junction-to-Ambient	400	°C/W
$R_{\theta Jc}$	Maximum Junction-to-Case	15	°C/W

Electrical Characteristics (TJ =25°C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Max.	Units
VTM *	On state voltage	I_{TM}=1A			1.7	V
VGT	Gate trigger voltage	V_{AK}=7V			0.8	V
VDRM AND VRRM	Peak Repetitive forward and reverse blocking voltage	I_{DRM}= 10 μA		400		V
IDRM	Peak forward or reverse blocking Current	V_{AK}= Rated VDRM or VRRM, RGK=1kΩ	TC=25°C		10	uA
IRRM			TC=125°C		100	
ITSM	Non-repetitive surge peak On-state current (TJ=25°C)	tp=10ms			9	A
		tp=8.3ms			10	
IGM	Peak Gate Current	Pulse Width≤1.0μs, TA=25°C			1	A
PGM	Peak Gate Power	Pulse Width≤1.0μs, TA=25°C			0.1	W
I_H	Holding current	I_{HL}= 20mA, VAK = 7V			5	mA
IGT	Gate trigger current	V_{AK}=7V	A2		15	uA
			A1		30	uA
			A		80	uA
			B		200	uA
dV/dt	*Critical Rate of Rise of Off-State Voltage*	*VD=Rated VDRM, Exponential Waveform, RGK=1000Ω, TJ=110°C*		20	50	*V/μs*
di/dt	*Critical Rate of Rise of On-State Current*	*IPK=20A; Pw=10usec. diG/dt=1A/μsec, Igt=20mA*			50	*A/μs*

* Forward current applied for 1 ms maximum duration，duty cycle≤1%。

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

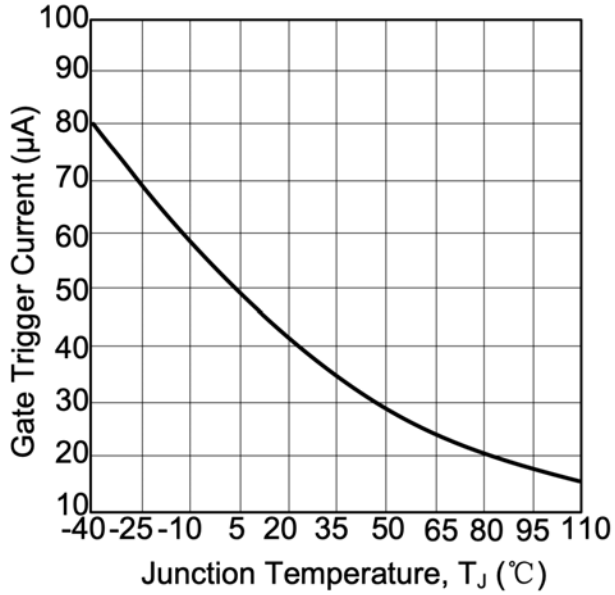


Fig 1. Typical Gate Trigger Current vs. Junction Temperature

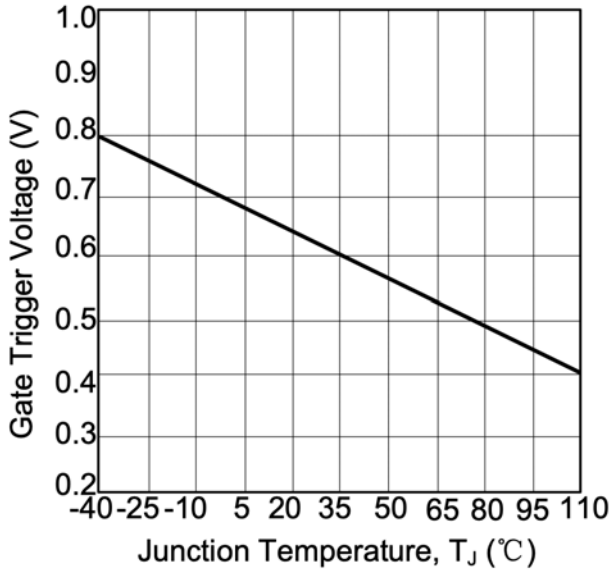


Fig 2. Typical Gate Trigger Voltage vs. Junction Temperature

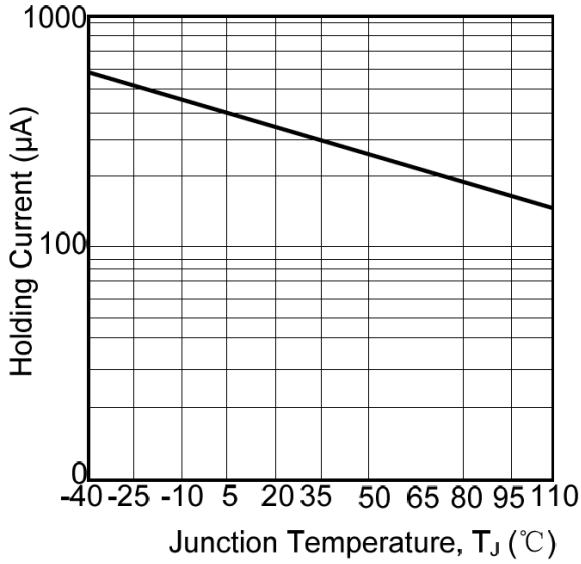


Fig 3. Typical Holding Current vs. Junction Temperature

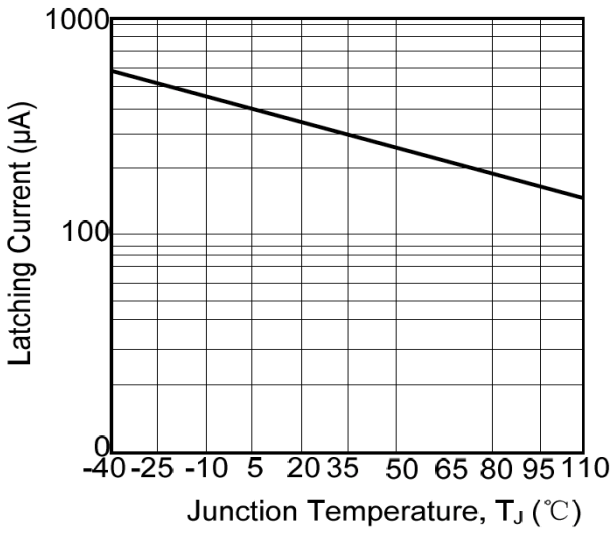


Fig 4. Typical Latching Current vs. Junction Temperature

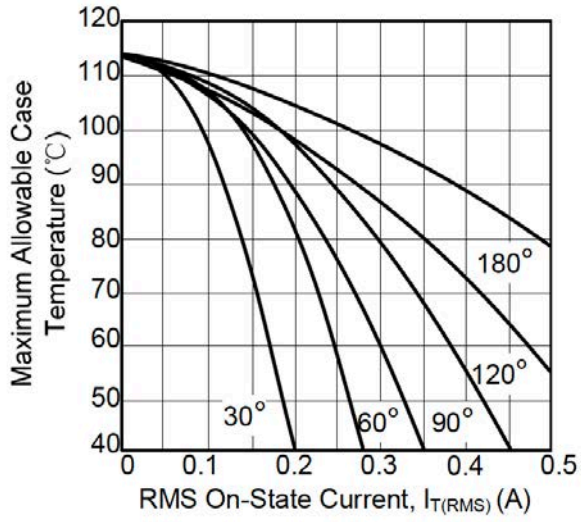


Fig 5. Typical RMS Current Derating

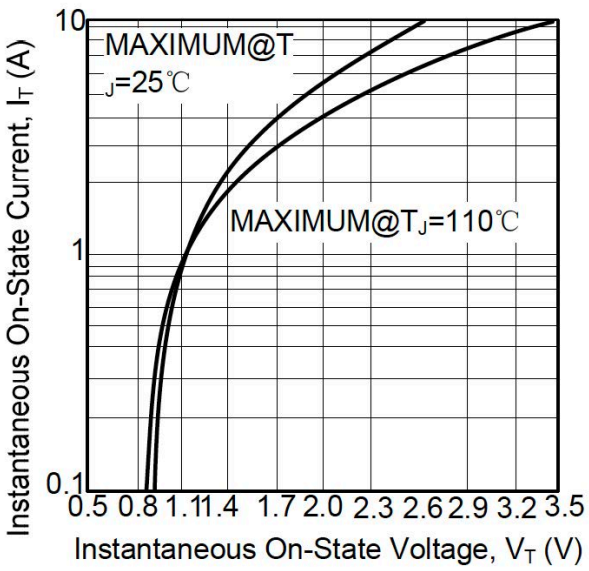
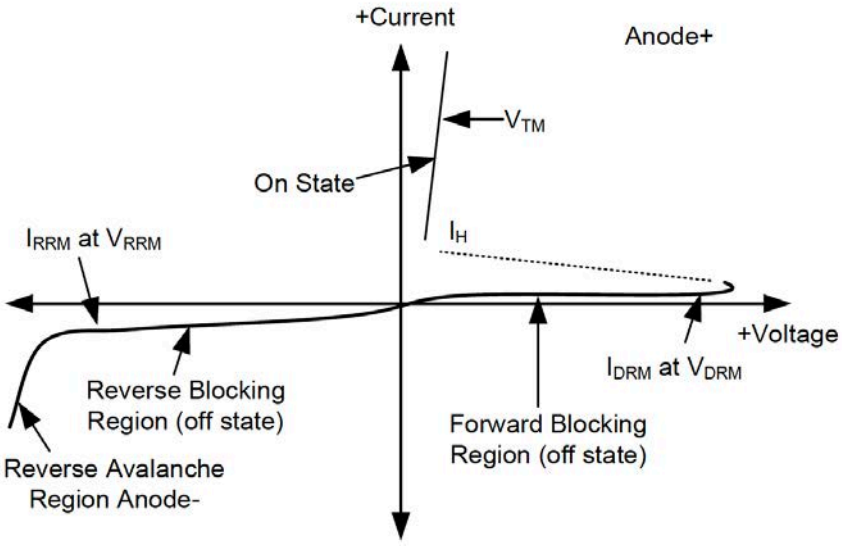
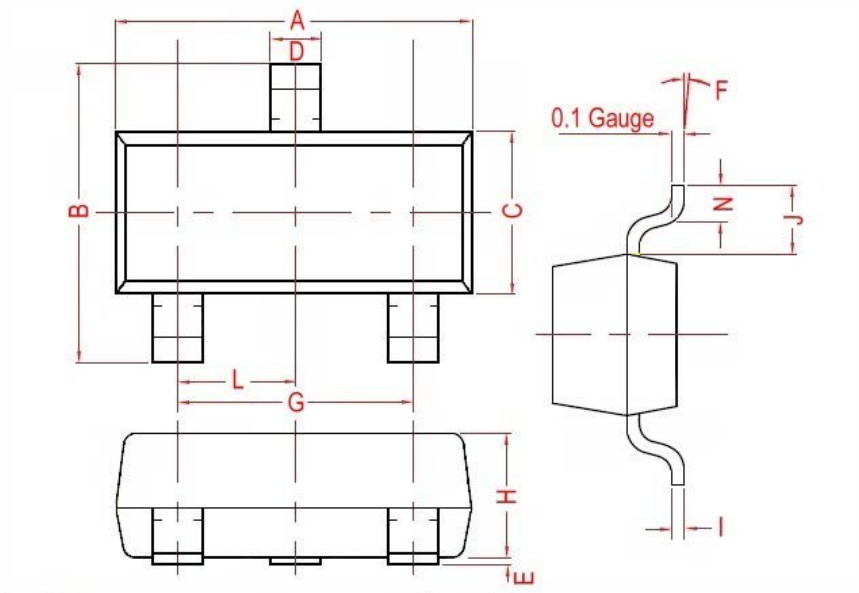


Fig 6. Typical On-State Characteristics

Symbol	Parameter
V_{DRM}	Peak Repetitive Off Stat 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



Package Dimension



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90 Ref.	
B	2.30	3.00	H	0.90	1.30
C	1.20	1.75	I	0.05	0.21
D	0.30	0.50	J	0.58 Ref.	
E	0.01	0.15	L	0.95 Typ.	
F	0°	10°	N	0.20 Min.	