



HY100-8

Silicon Controlled Rectifier

GENERAL DESCRIPTION

Logic level sensitive gate triac intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.

FEATURES

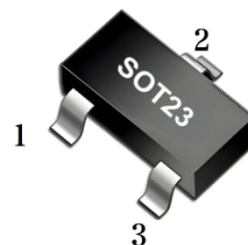
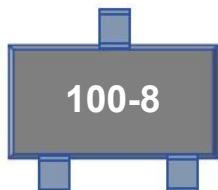
- *RMS on-state current to 0.8 A
- *General purpose switching
- *Blocking voltage to 600 V

APPLICATIONS

- *General purpose
- *switching Phase control applications
- *Solid state relays

MARKING

Type Code: Marking: 100-8



PIN1:K PIN2:A PIN3:G

ABSOLUTE MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

SYMBOL	PARAMETER	TEST CONDITION	VALUE	UNIT
V _{DRM} /V _{RRM}	Repetitive Peak off-state/reverse voltage (T _J =25~ 125°C, Sine Wave, R _{GK} =1KΩ)		600	V
I _{T(RMS)}	Forward Current RMS (All Conduction Angle)		0.8	A
I _{TSM}	Peak Forward Surge Current (1/2 Cycle, Sine Wave, f=60Hz)		10	A
I _{GFM}	Forward Peak Gate Current (P _W ≤ 1 μS)		1	A
V _{GRM}	Reverse Peak Gate Voltage	T _A =25°C, P _W ≤ 1 μS	5	V
I ² t	Circuit Fusing Considerations	t _p =8.3ms	0.415	A ² S
P _{GM}	Gate Power Dissipation – Forward	P _W ≤1μs	0.1	W
P _{G(AV)}	Average Gate Power Dissipation – Forward	T _A =25°C, t=8.3ms	0.01	W
T _{stg}	Storage Temperature		-40 to +150	°C
T _J	Operating junction temperature		125	°C

Note: V_{DRM} and V_{RRM} for types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the device are exceeded.



HY100-8

Silicon Controlled Rectifier

ELECTRICAL CHARACTERISTICS($T_j=25^{\circ}\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Peak forward on state voltage	V_{TM}	$I_{TM}=1\text{A}$			1.7	V
Gate trigger voltage(continuous dc)	V_{GT}	$V_D=7\text{V}; R_L=100\Omega$			0.8	V
Gate trigger current(continuous dc)	I_{GT}				200	μA
off-state leakage current	I_{RRM}	$V_{AK}=\text{Rated } V_{DRM}/V_{RRM}$			10	μA
	I_{DRM}				10	
Holding Current	I_H	$I_{HL}=20\text{mA}, V_{AK}=7\text{V}$			5	mA
Holding Current	I_L	$I_G=1.2 I_{GT}$			5	mA

■ TYPICAL CHARACTERISTICS

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

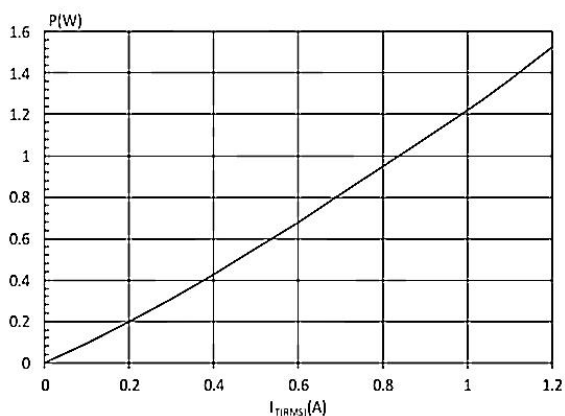


FIG.2: RMS on-state current versus case temperature

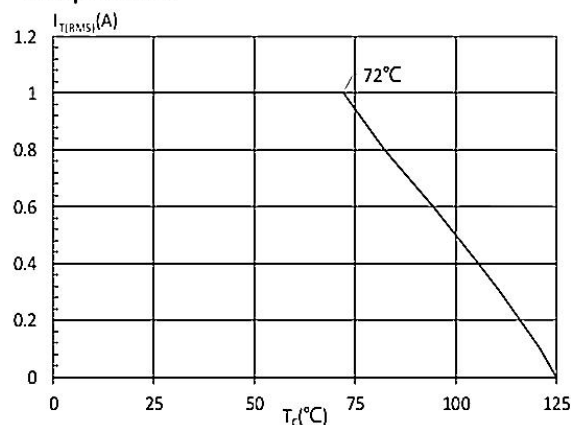


FIG.3: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35 μm)(full cycle)

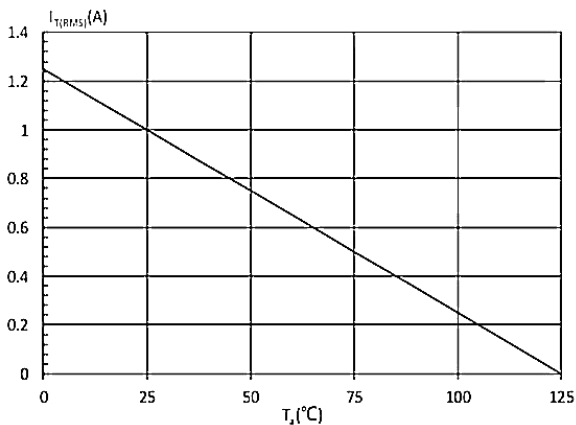
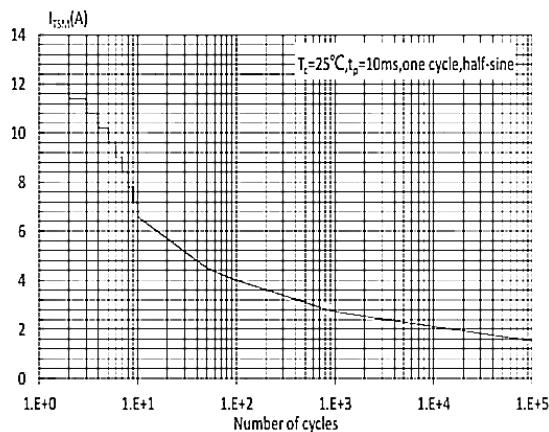


FIG.4: Surge peak on-state current versus number of cycles





HY100-8

Silicon Controlled Rectifier

■ TYPICAL CHARACTERISTICS(Con.t)

FIG.5: On-state characteristics

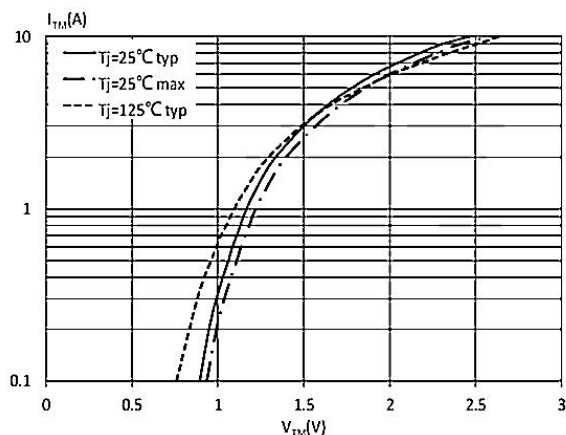


FIG.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

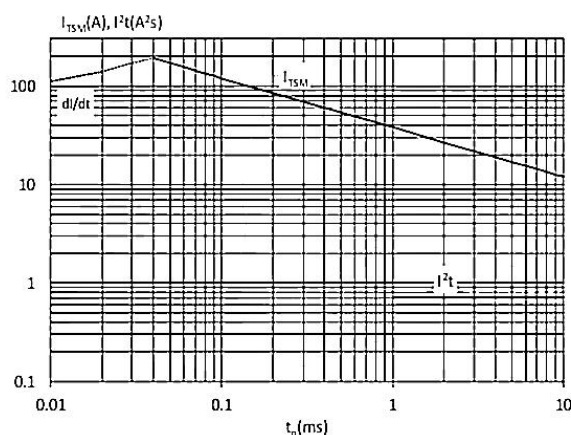
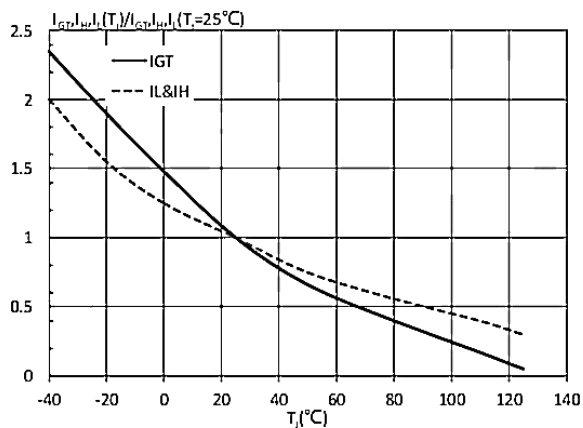


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

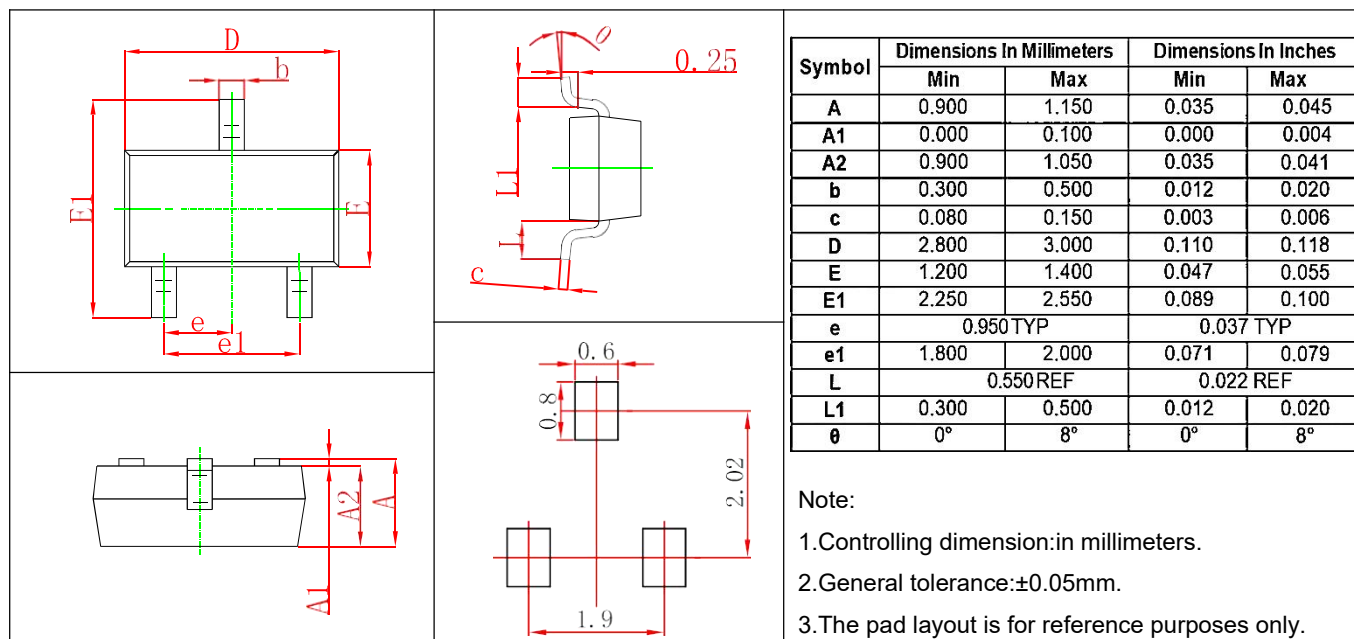




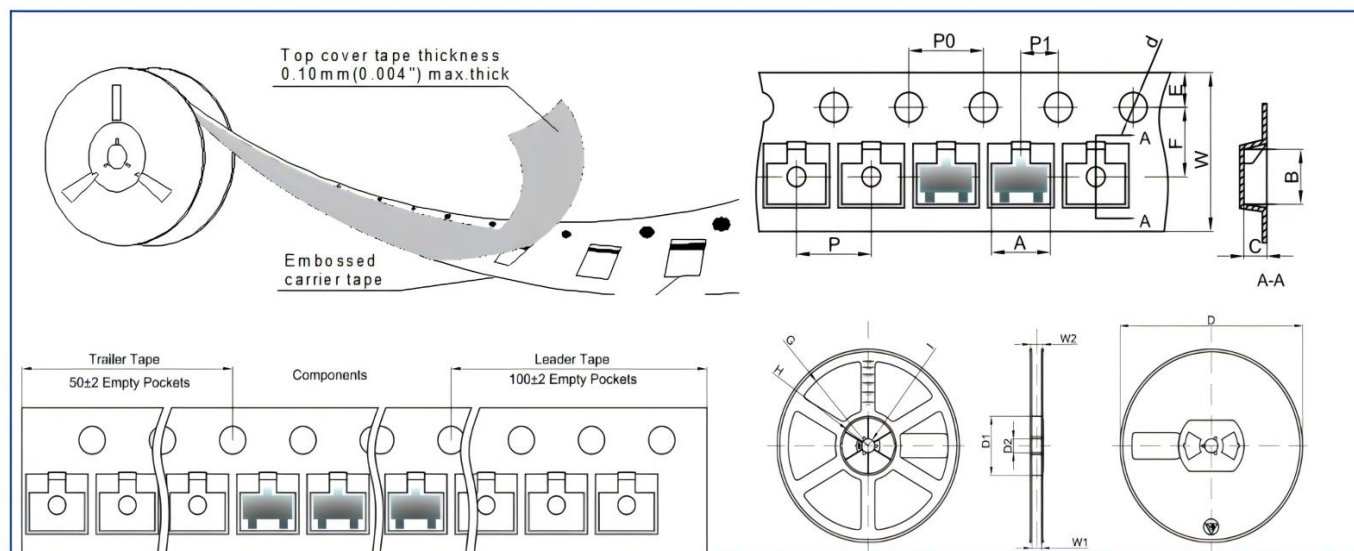
HY100-8

Silicon Controlled Rectifier

■ SOT23 PACKAGE OUTLINE DIMENSIONS



■ REEL PACKING



Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.15	2.77	1.22	Φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
Reel Option	D	D1	D2	G	H	I	W1	W2	Q.TY PER REEL	
7" Dia	Φ178.0	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30	3000PCS	
13" Dia	Φ330.0	/	13.00	/	/	R6.50	9.50	12.30	10000PCS	