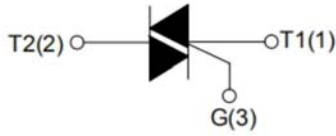


1A 4Q Triac



SOT-223-2L

Features

- On-state rms current, $I_{T(RMS)}$ 1 A
- Repetitive peak off-state voltage, V_{DRM}/V_{RRM} 800 V
- Triggering gate current, $I_{GT}(Q1)$ 5 mA

Applications

- General purpose switching and phase control
- General purpose low power switching
- Solid-state relay

Mechanical Data

- Case Material: "Green" Molding Compound
- Package:

DEVICE	PACKAGE
ACY0810S4-01	SOT-223-2L

Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	1	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	5	mA

Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Storage junction temperature range	T_{stg}	-40~150	°C
Junction temperature range	T_j	-40~125	°C
Repetitive surge peak Off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
RMS on-state current ($TC=80^{\circ}C$)	$I_{T(RMS)}$	1	A
Non-repetitive surge peak on-state current (full sine wave, $t_p=20ms$, $T_j=25^{\circ}C$)	I_{TSM}	16	A
I^2t value for fusing ($t_p=10ms$)	I^2t	1.28	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	I - II - III	50
		IV	10
Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W



ACY0810S4-01

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	QUADRANT	MIN	TYP	MAX
Gate trigger current	I _{GT}	mA	V _D =12V, R _L =33Ω	I - II - III			5
				IV			10
Gate trigger voltage	V _{GT}	V	V _D =12V, R _L =33Ω	I - II - III - IV			1.5
Non-triggering gate voltage	V _{GD}	V	V _D =V _{DRM}	I - II - III - IV	0.2		
Holding current	I _H	mA	I _T =100mA	I - II - III - IV			10
Latching current	I _L	mA	I _G =3I _{GT}	I - III - IV			10
				II			25
Rate of rise of off-state voltage	dV/dt	V/μs	V _D =0.66×V _{DRM} T _J =125°C Gate open	I - II - III - IV	20		50

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V _{TM}	V	I _{TM} =5A t _p =380μs	1.7
Peak off-state current	I _{DRM} I _{RRM}	μA	V _{DRM} = V _{RRM} , T _J =25°C	5
Peak reverse current		mA	V _{DRM} = V _{RRM} , T _J =125°C	0.5

■Thermal Resistance (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	Pacakge	Value
Thermal Resistance (Typical)	Junction to case	R _{θJ-C}	°C/W	SOT-223	18



■ Characteristics (Typical)

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

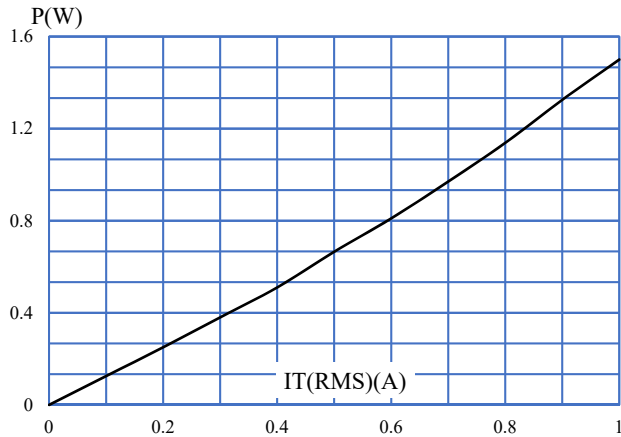


FIG.2: RMS on-state current versus case temperature

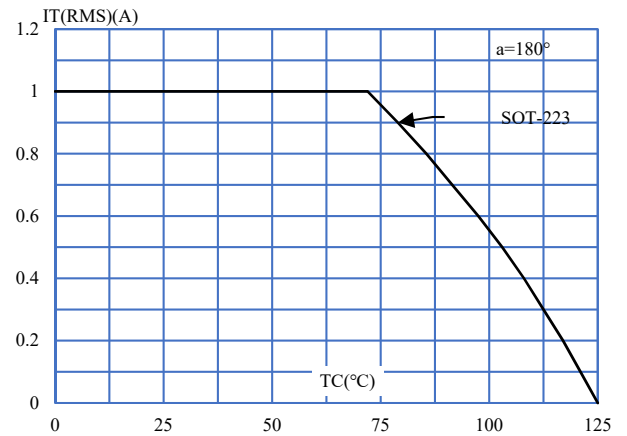


FIG.3: Surge peak on-state current versus number of cycles

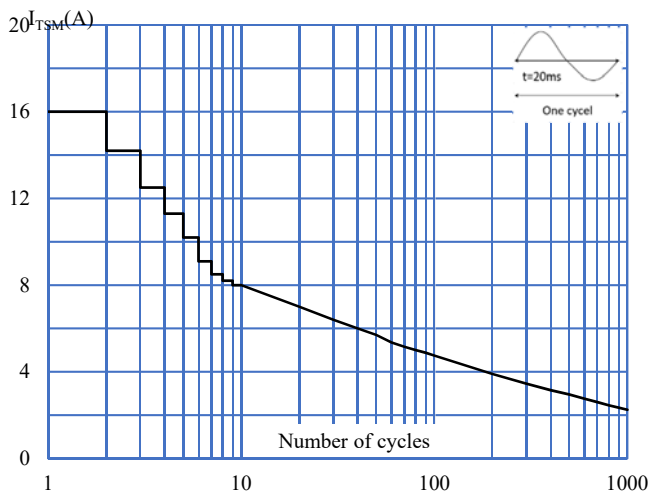


FIG.4: On-state characteristics (maximum values)

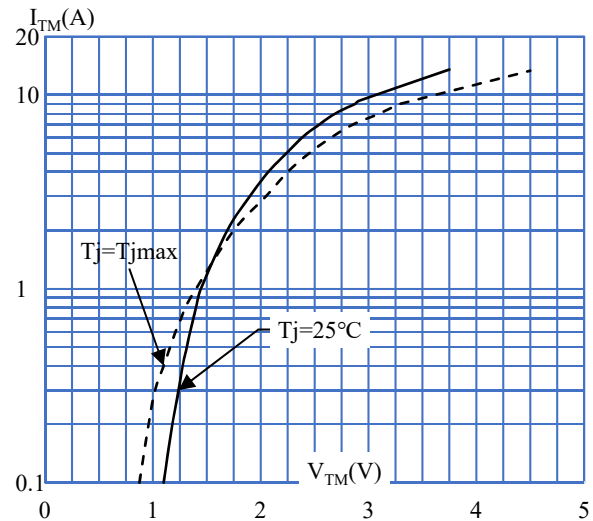


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of $I_2 t$ ($dI/dt < 50A/\mu s$)

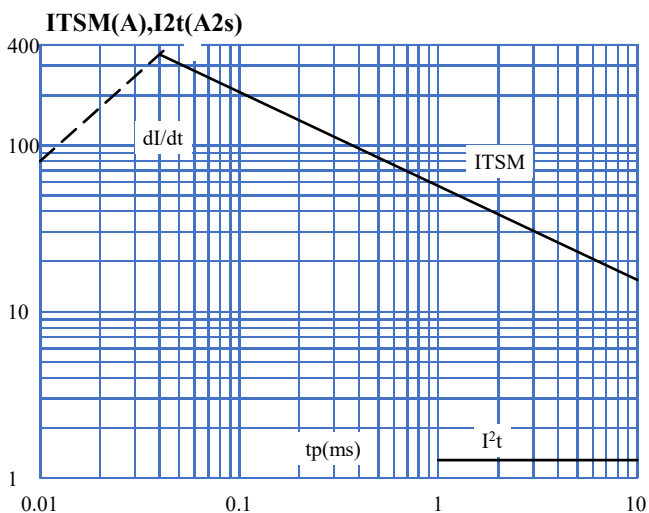
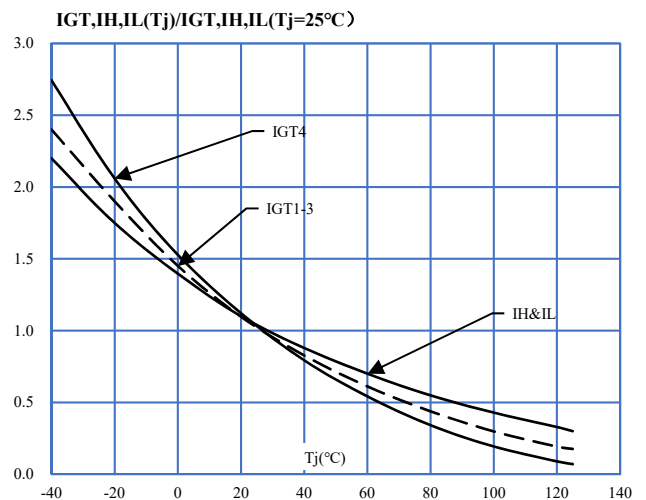


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

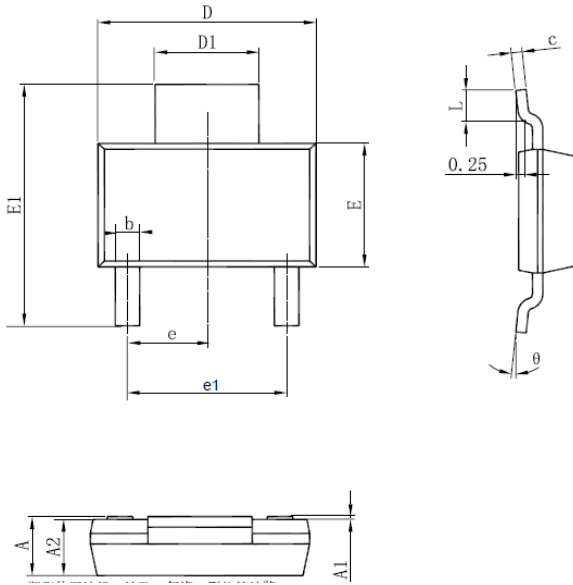




ACY0810S4-01

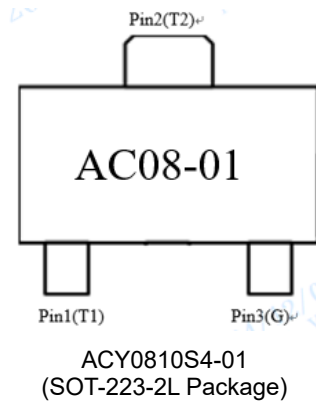
■ Outline Dimensions

SOT-223-2L Package Outline Dimensions



Ref.	Dimensions					
	Inches			Millimeters		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			0.0709	/	/	1.80
A1	0.00079		0.0039	0.02	/	0.10
A2	0.0591	0.063	0.0667	1.50	1.60	1.70
b	0.026	0.028	0.0331	0.66	0.71	0.84
c	0.0091	0.0118	0.0138	0.23	0.30	0.35
D	0.248	0.256	0.264	6.30	6.50	6.70
D1	0.114	0.118	0.122	2.90	3.00	3.10
E	0.13	0.138	0.146	3.30	3.50	3.70
E1	0.264	0.276	0.287	6.70	7.00	7.30
e	0.0906 BASIC			2.30 BASIC		
e1	0.181 BASIC			4.60 BASIC		
L	0.0295	/	/	0.75	/	/
θ	0°	/	10°	0°	/	10°

■ Marking Information





Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.