

## SD1U40ST

### Product profile

Surface Mount High Current Density Schottky

### General description

Rectifiers 1.0 Amp 40V

### Features

Guarding protection

Low forward voltage

Reverse energy tested

High current capability

Extremely low thermal resistance

### Mechanical data

Case: SOD-123 Molded plastic

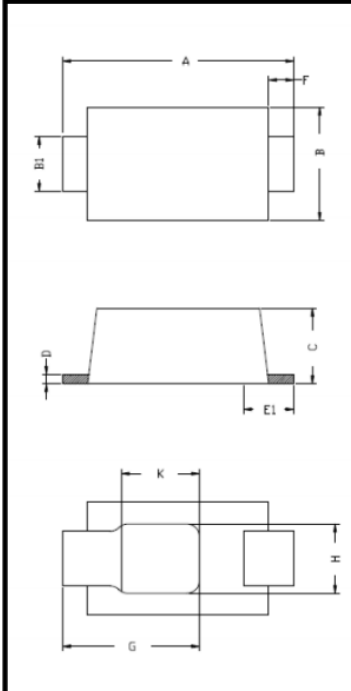
Epoxy: UL94V-O rate flame retardant

Lead: Lead Formed for Surface Mount

Polarity: Color band denotes cathode end

Mounting position: Any

Dimension	Millimeters	
	Min	Max
A	3.55	3.85
B	1.60	2.00
B1	0.80	1.00
C	0.85	0.95
D	0.12	0.20
E1	0.60	1.00
F	0.20	0.60
K	1.05	1.45
H	0.90	1.30
G	2.05	2.45



### Maximum Ratings (Tc=25°C unless otherwise noted)

Parameter	Symbol	SD1U40ST	Unit
Maximum repetitive peak reverse voltage	VRRM	40	V
RMS Voltage (Max.)	VRMS	28	V
Working peak reverse voltage	VRWM	40	V
Maximum average forward rectified current	IF(AV)	1.0	A
Peak forward surge current	IFSM	10	A
8.3ms single half sine-wave superimposed on rated load (JEDEC Method)		60	
1pulse/4S t=500us exponent wave			
Operating junction temperature range	TJ	-55 to +125	°C
Storage temperature range	TSTG	-55 to +150	°C

### THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Typical thermal resistance	RθJA	42	°C/W

Notes:

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

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### Electrical characteristics (Tc=25°C unless otherwise noted)

#### OFF CHARACTERISTICS

Parameter	Symbol	Value		Unit
		Typical	Max	
Instantaneous forward voltage at IF=1A, Tj=25°C	VF	0.37	0.42	V
Maximum reverse current Tj=25°C	IR	100		u'A
at working peak reverse voltage Tj=125°C		10		m'A

#### DEVICE MARK

SD1U40ST

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### ■ Characteristic Curves

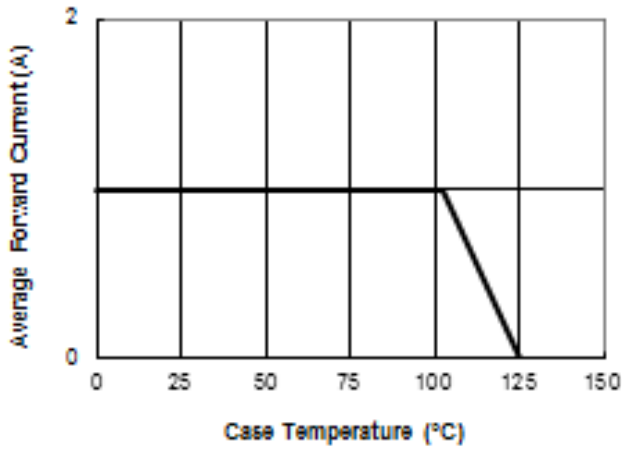


Figure 1. Forward Current Derating Curve

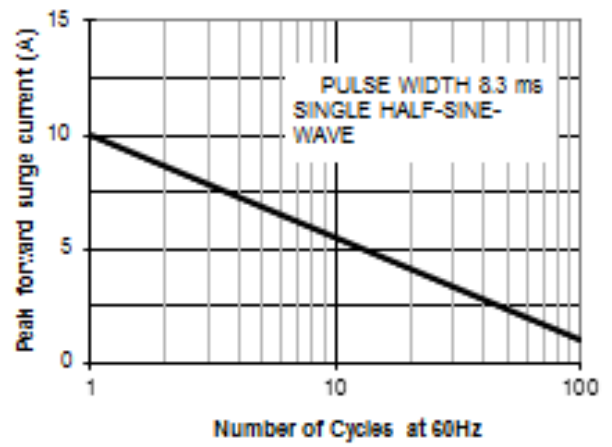


Figure 2. Maximum NON-Repetitive Surge

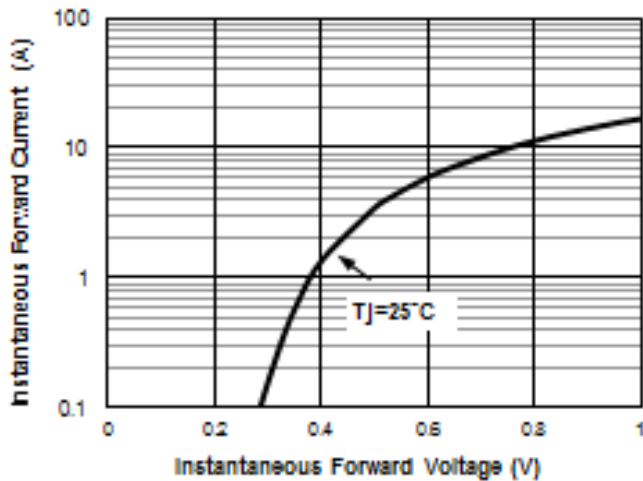


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

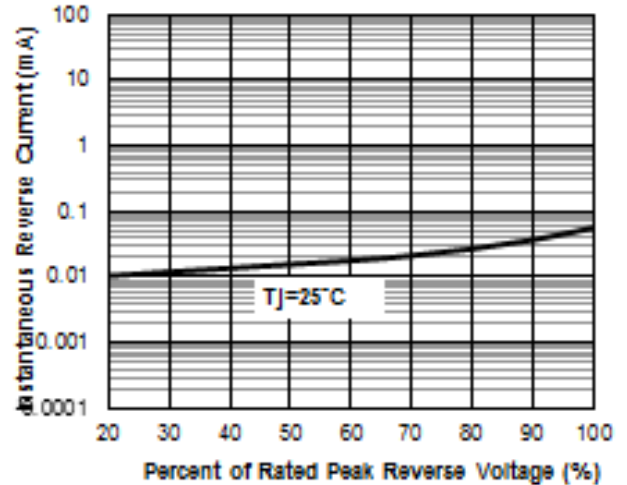


Figure 4. Typical Reverse Characteristics

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