

## BAT48-40

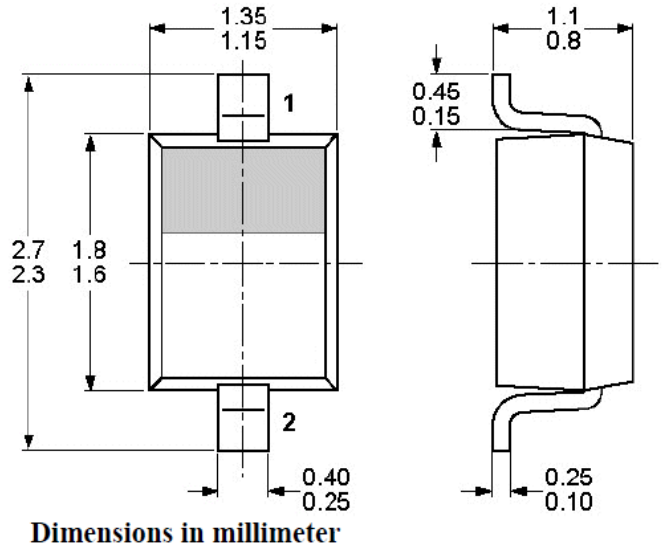
### Surface Mount High Current Density Schottky Rectifiers 1.0 Amp 40V

#### Features

- Guarding protection
- Low forward voltage
- Reverse energy tested
- High current capability
- Extremely low thermal resistance
- RoHS compliant package

#### Mechanical Data

- Case: SOD-323 Molded plastic
- Epoxy: UL94V-O rate flame retardant
- Lead: Lead Formed for Surface Mount
- Polarity: Color band denotes cathode end
- Mounting position: Any



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	BAT-40	Unit
Maximum repetitive peak reverse voltage	VRRM	40	V
Working peak reverse voltage	VRWM	28	V
Maximum DC blocking voltage	VDC	40	V
Maximum average forward rectified current	IF(AV)	1.0	A
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

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

Parameter	Symbol	BAT-40	Unit
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	10	A
1pulse/4S t=500us exponent wave		60	

#### Note:

- (1) Mounted on 30 mm x 30 mm Al P.C.B. with 50 mm x 25 mm x 100 mm fin heat sink
- (2) Free air, mounted on recommended copper pad area

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

Parameter	Symbol	Value		Unit
		Typical	Max	
Instantaneous forward voltage at IF=200mA, Tj=25°C	VF	0.35	0.38	V
IF=500mA, Tj=25°C		0.41	0.45	
IF=1.0A, Tj=25°C		0.49	0.53	
IF=200mA, Tj=125°C		0.23	0.25	
IF=500mA, Tj=125°C		0.32	0.35	
IF=1.0A, Tj=125°C		0.44	0.48	
Maximum reverse current per leg at working peak reverse voltage	IR	100		u'A
Tj=25°C		20		m'A
		Tj=125°C		

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

Parameter	Symbol	Value	Unit
Typical thermal resistance (Note 1)	RθJA	88	°C/W
	RθJC	30	°C/W

#### Notes:

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

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### ■ RATINGS AND CHARACTERISTIC CURVES

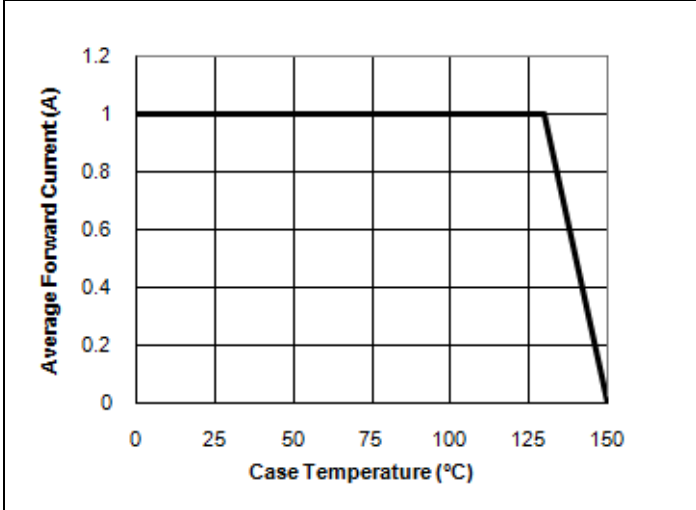


FIG. 1- TYPICAL FORWARD CURRENT DERATING CURVE

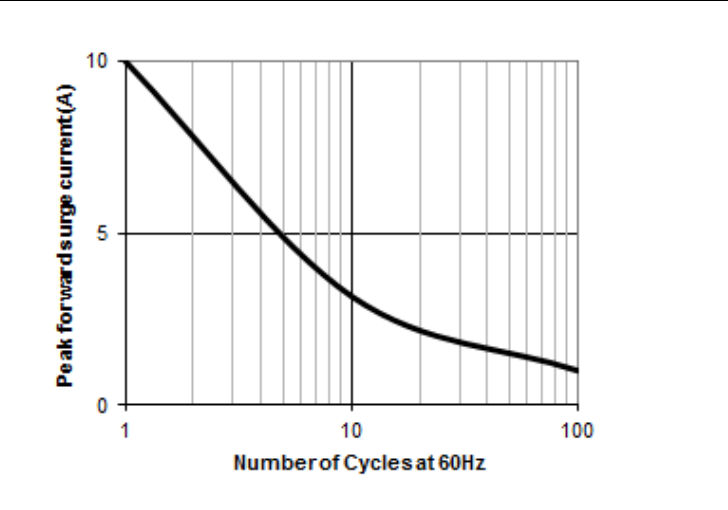


FIG. 2- TYPICAL MAXIMUM NON-REPETITIVE SURGE

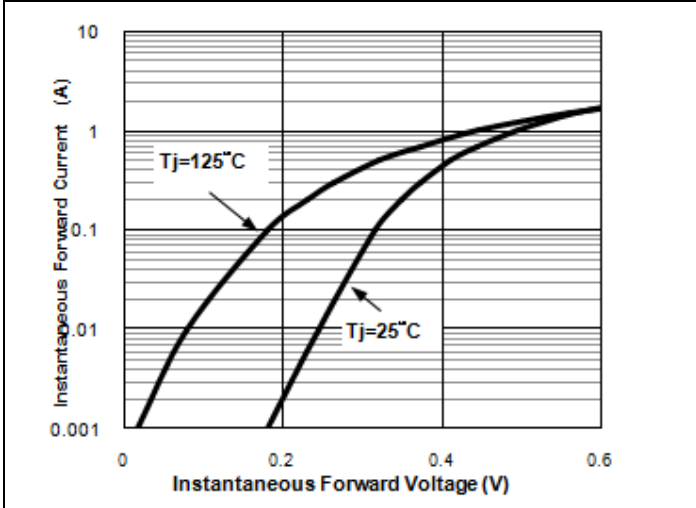


FIG. 3- TYPICAL FORWARD INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

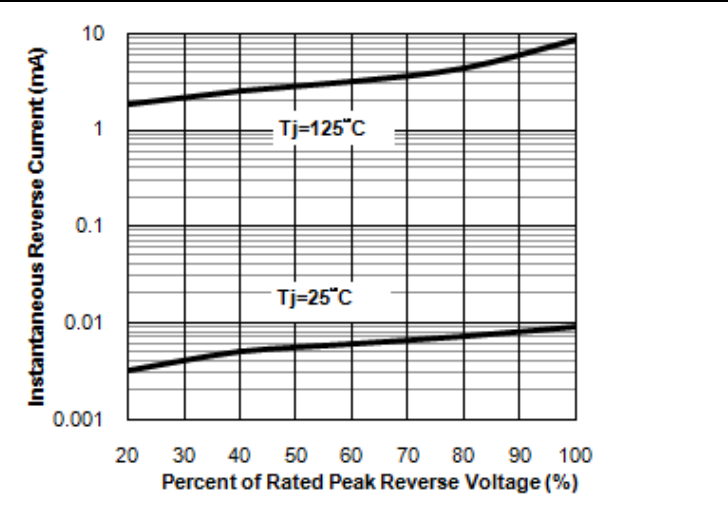


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

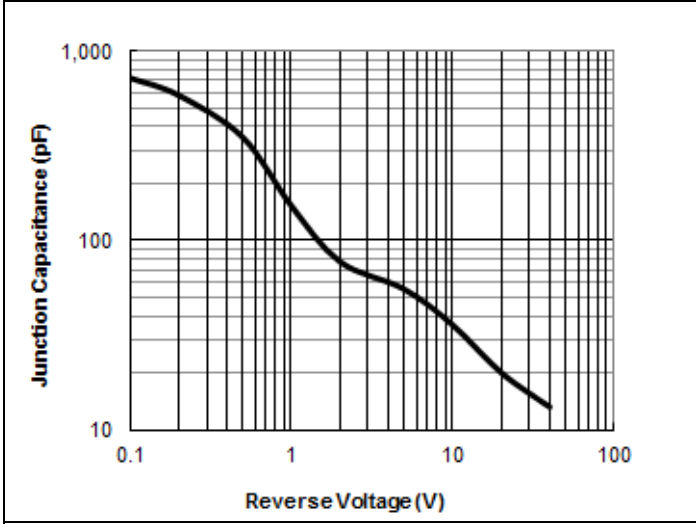


FIG. 5- TYPICAL JUNCTION CAPACITANCE

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