Technical Data
Data Sheet 3119, Rev. -

30BQ040 SCHOTTKY RECTIFIER

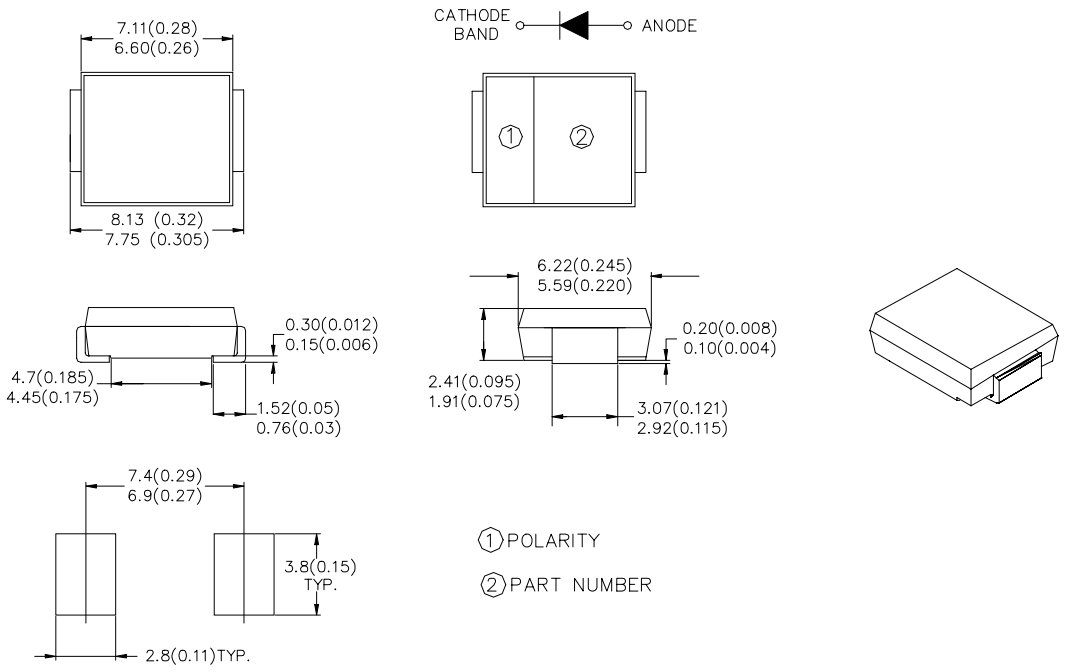
Applications:

- **Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection**
- **Disk drives • Battery charging**

Features:

- **Small foot print, surface mountable**
- **Very low forward voltage drop**
- **High frequency operation**
- **Guard ring for enhanced ruggedness and long term reliability**

Mechanical Dimensions: In Inches / mm



SMC

Data Sheet 3119, Rev. -

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	40	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_L = 118°C , rectangular wave form	3.0	A
		50% duty cycle @T_L =110°C, rectangular wave form	4.0	
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	132	A
Non-Repetitive Avalanche Energy	E_{AS}	T_J = 25 °C, I_{AS} = 0.6A, L = 6.6 mH	35	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 µsec Frequency limited by T_J max. V_A = 1.5 x V_R typical	0.6	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop *	V_{F1}	@ 3 A, Pulse, T_J = 25 °C @ 6 A, Pulse, T_J = 25 °C	0.53 0.68	V
	V_{F2}	@ 3 A, Pulse, T_J = 125 °C @ 6 A, Pulse, T_J = 125 °C	0.43 0.57	V
Max. Reverse Current *	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.5	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	30	mA
Max. Junction Capacitance	C_T	@V_R = 5 V, T_C = 25 °C f_{SIG} = 1MHz	230	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	3.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/µs

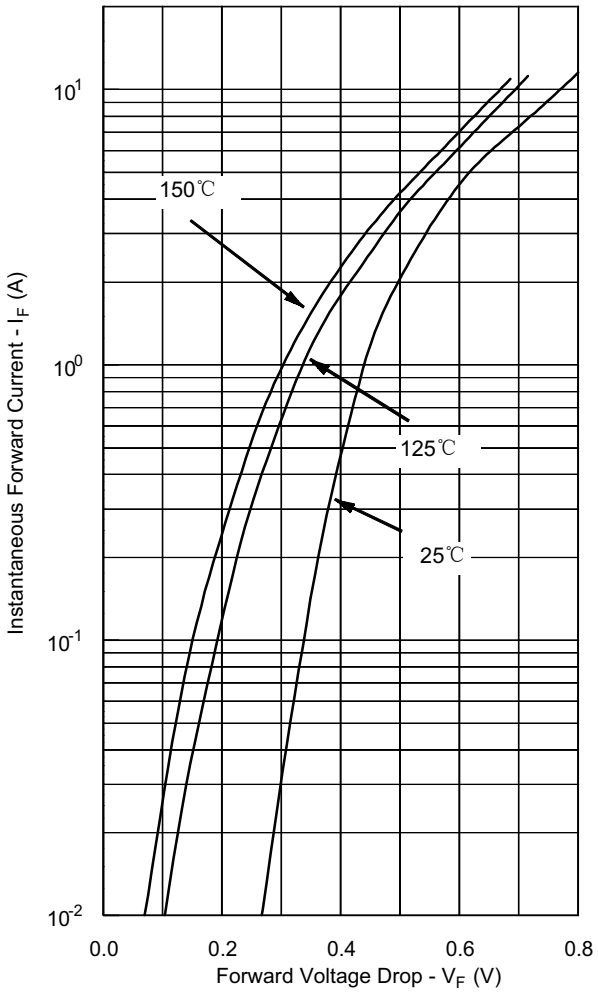
* Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

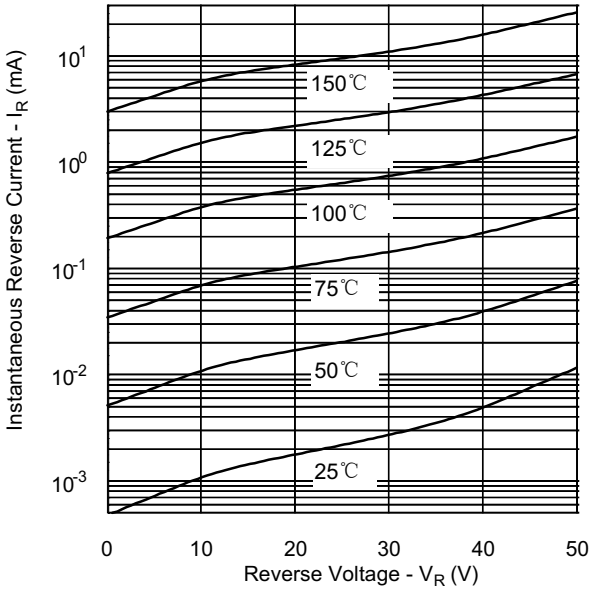
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Max. Thermal Resistance, Junction to Lead	$R_{\theta JL}$	DC operation	12	°C/W
Max. Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	DC operation	46	°C/W
Approximate Weight	wt	-	0.24	g
Case Style	SMC			

Data Sheet 3119, Rev. -

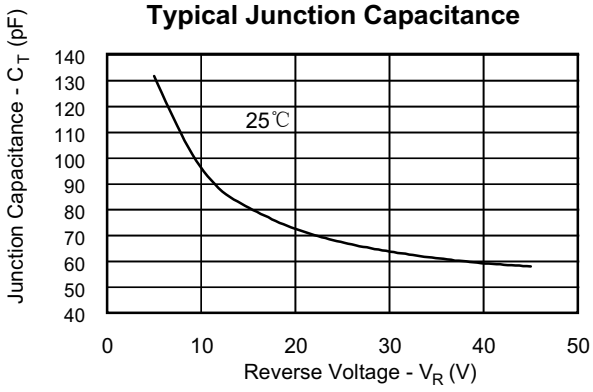
Typical Forward Characteristics



Typical Reverse Characteristics



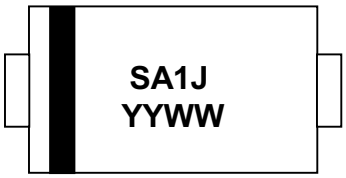
Typical Junction Capacitance



Data Sheet 3119, Rev. -

Marking & Identification

Each device has 2 rows of marking for identification.
The first row designates the device as manufactured by Sensitron Semiconductor as indicated by the letter "S". It also contains the information about package style, current and voltage rating.
The second row indicates the year and the week of manufacturing.



SA 1J

VOLTAGE

SCHOTTKY STD.
C=15V
D=25V
E=30V
F=40V
G=45V
H=60V
A=80V
J=100V
B=135V
M=150V
N=200V

CURRENT

1 = 1A
2 = 2A
3 = 3A

PACKAGE

A for SMA
B for SMB
C for SMC

SENSITRON SEMICONDUCTOR LOGO

YY WW

WEEK

YEAR

TECHNICAL DATA

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.