

30BQ040-G SCHOTTKY RECTIFIER

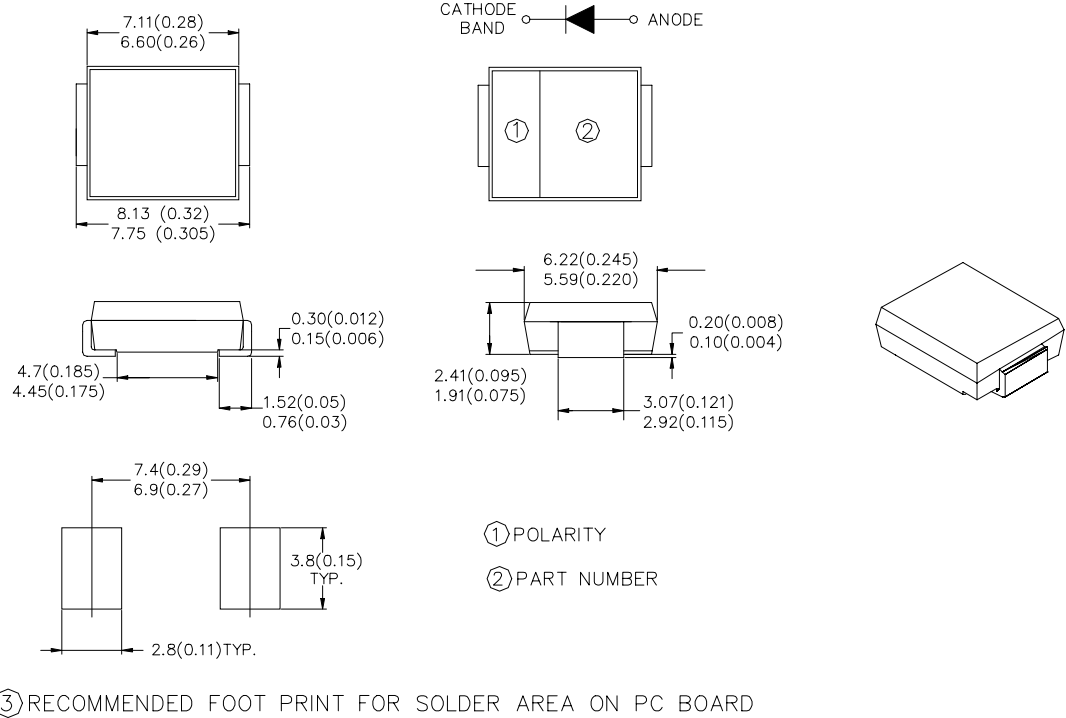
Applications:

- 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
- Green Products in Compliance with the RoHS Directive

Mechanical Dimensions: In Inches / mm



SMC

Data Sheet 3362, Rev. -

Green Products

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	40	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_L = 118^\circ\text{C}$, rectangular wave form	3.0	A
		50% duty cycle @ $T_L = 110^\circ\text{C}$, 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}	$T_J = 25^\circ\text{C}$, $I_{AS} = 0.6\text{A}$, $L = 6.6\text{ mH}$	35	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	0.6	A

Electrical Characteristics:

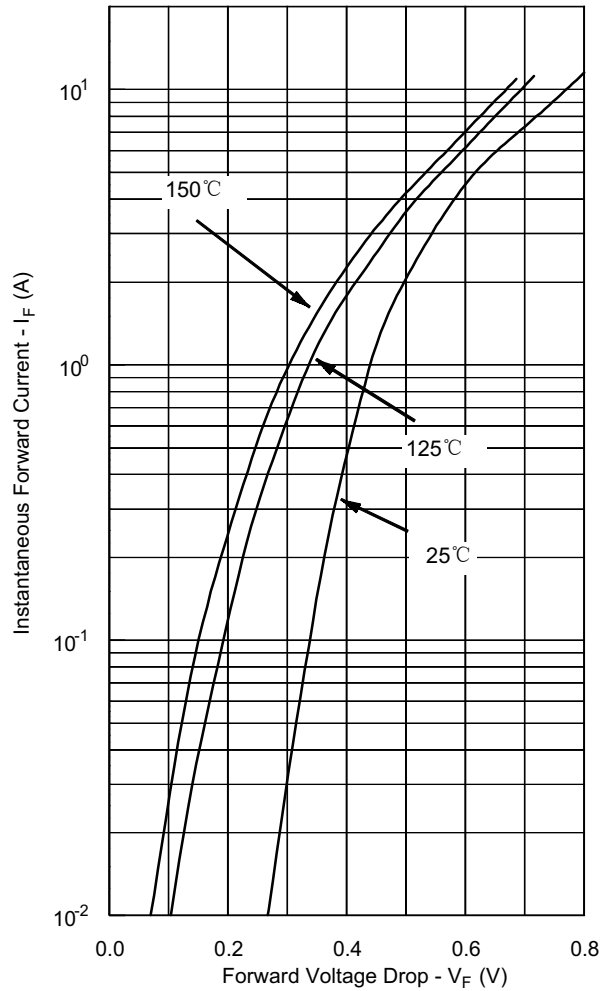
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop *	V_{F1}	@ 3 A, Pulse, $T_J = 25^\circ\text{C}$	0.53	V
		@ 6 A, Pulse, $T_J = 25^\circ\text{C}$	0.68	
	V_{F2}	@ 3 A, Pulse, $T_J = 125^\circ\text{C}$	0.43	V
		@ 6 A, Pulse, $T_J = 125^\circ\text{C}$	0.57	
Max. Reverse Current *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.5	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	30	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	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 < 300 μs , Duty Cycle <2%

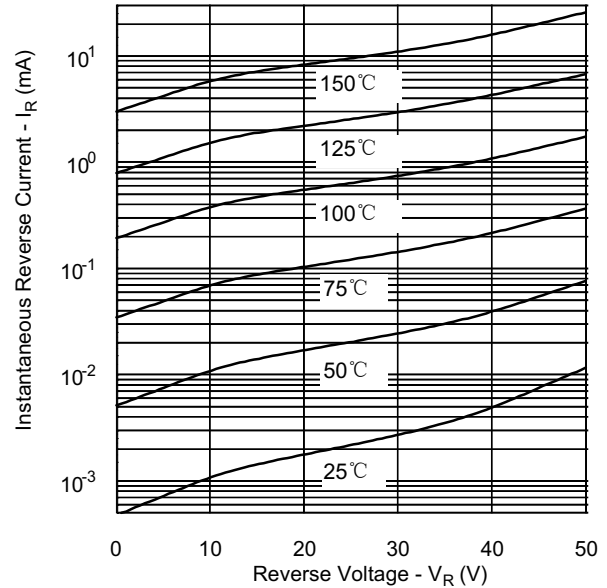
Thermal-Mechanical Specifications:

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

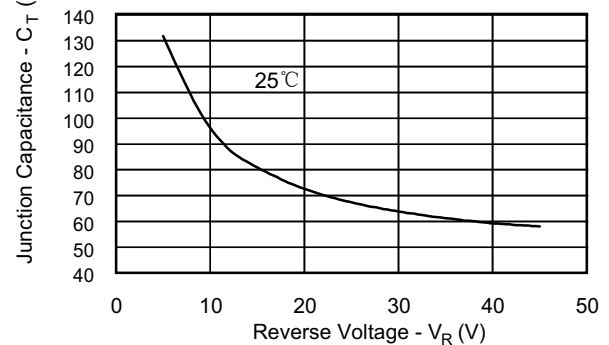
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

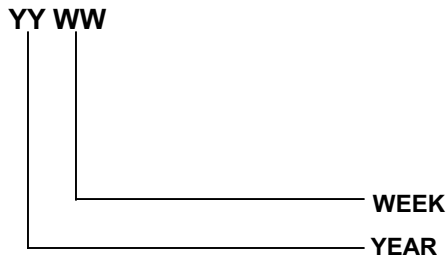
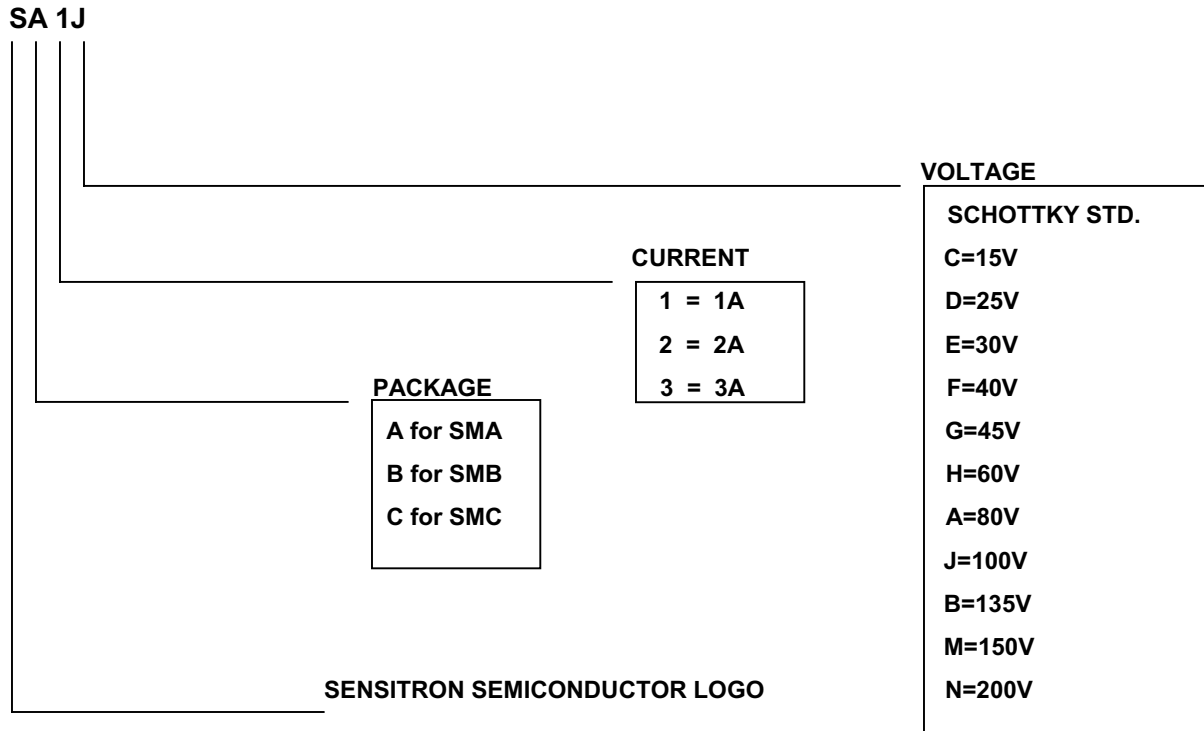
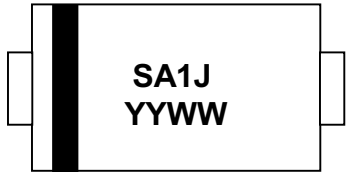


Marking & Identification

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.



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