

## 10BQ040 SCHOTTKY RECTIFIER

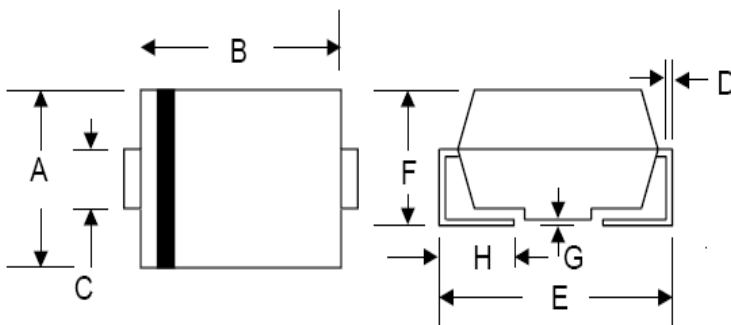
### Applications:

- Disk Drives
- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Battery Charging

### Features:

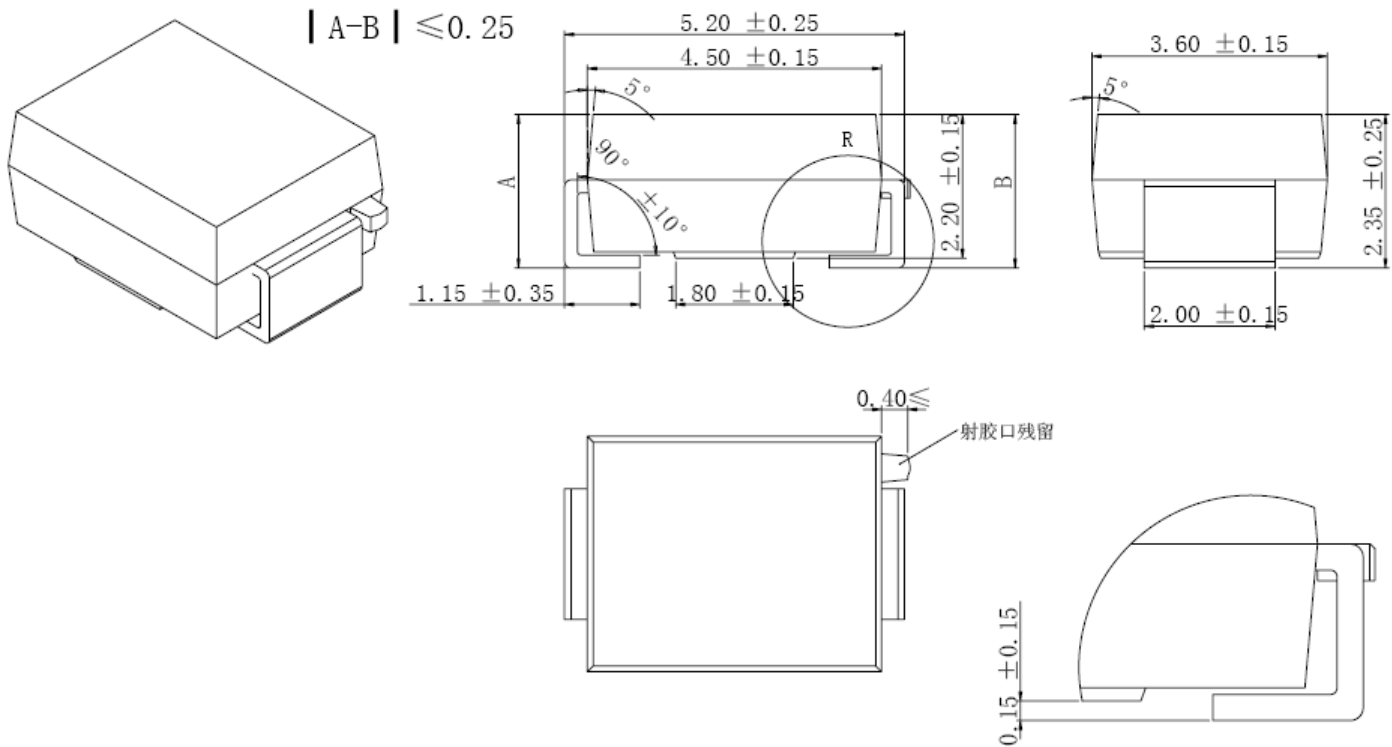
- Small foot print, surface moutable
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Mechanical Dimensions: In mm



SMB/DO-214AA				
Dim	Min	Max	Min	Max
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.91	2.11	0.075	0.083
D	0.152	0.305	0.006	0.012
E	5.08	5.59	0.2	0.220
F	2.13	2.44	0.084	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.029	0.05
			in mm	In inch

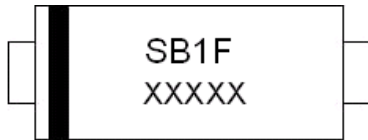
### OPTION 1



**OPTION 2(JK)**

**SMB**

**Marking Diagram:**



Where XXXXX is YYWWL

SB1F = Part Name  
 YY = Year  
 WW = Week  
 L = Lot Number

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
10BQ040	SMB (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	40	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=112^\circ\text{C}$ , rectangular wave form	1.0	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	54	A

**Electrical Characteristics:**

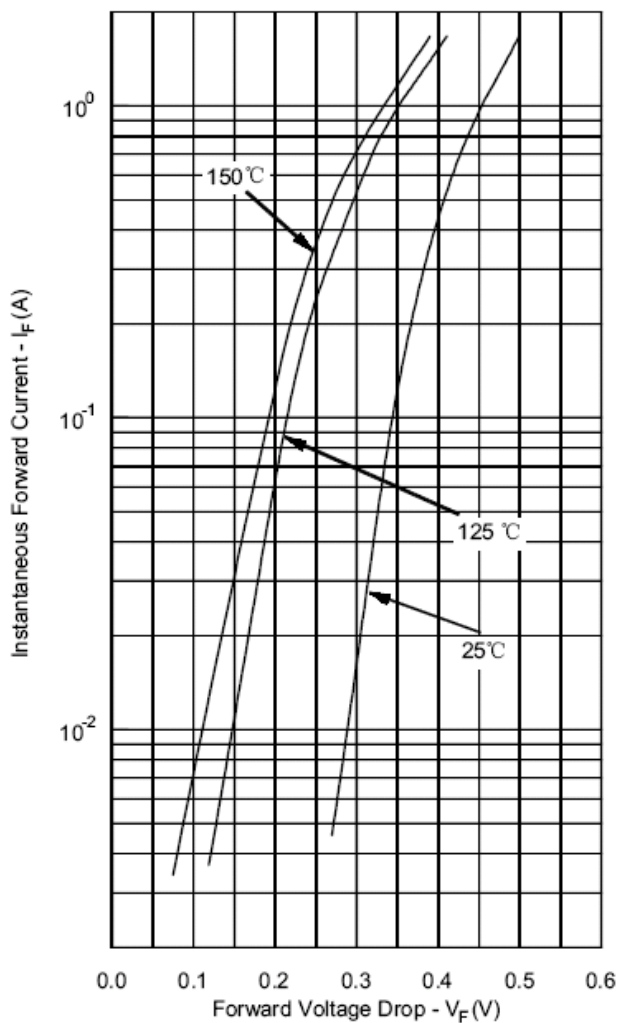
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 1 A, Pulse, T <sub>J</sub> = 25 °C @ 2 A, Pulse, T <sub>J</sub> = 25 °C	0.45 -	0.53 0.70	V
	V <sub>F2</sub>	@ 1 A, Pulse, T <sub>J</sub> = 125 °C @ 2 A, Pulse, T <sub>J</sub> = 125 °C	0.35 -	0.49 0.64	V
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = Rated V <sub>R</sub> , Pulse, T <sub>J</sub> = 25 °C	0.007	1	mA
	I <sub>R2</sub>	@V <sub>R</sub> = Rated V <sub>R</sub> , Pulse, T <sub>J</sub> = 125 °C	5	40	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	65	80	pF
Typical Series Inductance	L <sub>S</sub>	Measured lead to lead 5 mm from package body	-	2.0	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

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

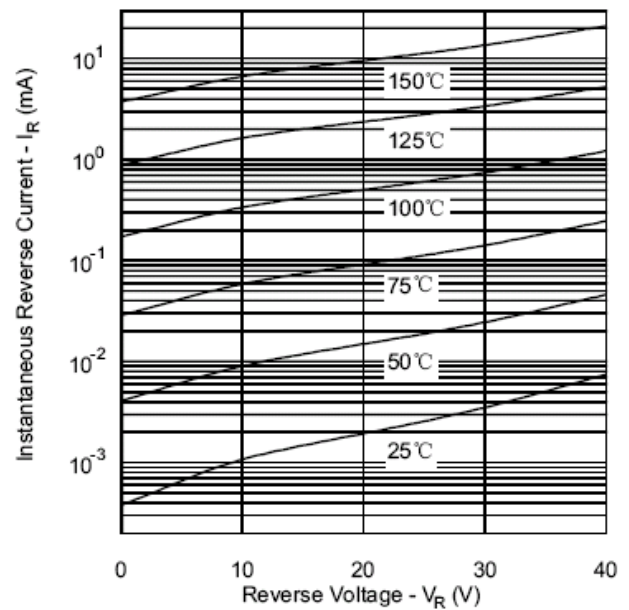
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	DC operation	36	°C/W
Approximate Weight	wt	-	0.68	g
Case Style	SMB			

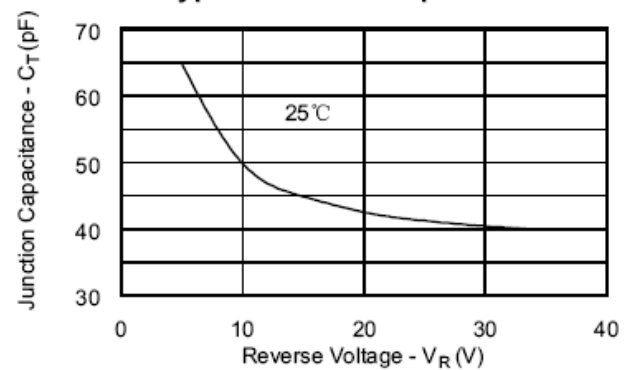
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**





10BQ040

Technical Data  
Data Sheet N0644, Rev. -

*Green Products*

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