Technical Data
Data Sheet N0643, Rev. -

Green Products

10BQ030 SCHOTTKY RECTIFIER

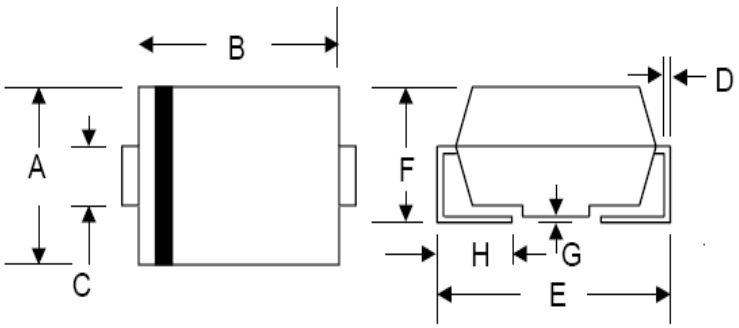
Applications:

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

Features:

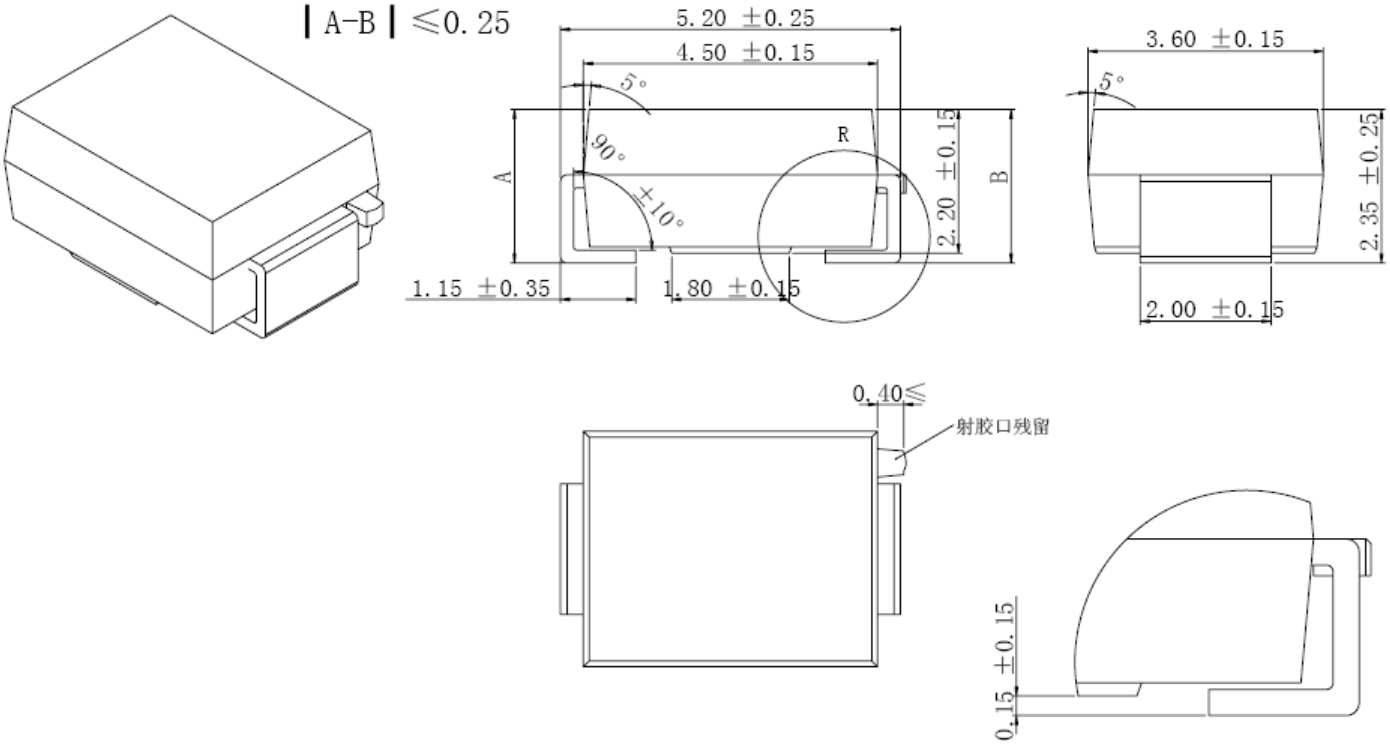
- **Small foot print, surface moutable**
- **Low forward voltage drop**
- **High frequency operation**
- **Guard ring for enhanced ruggedness and long term reliability**
- **This is a Pb − Free Device**
- **All SMC parts are traceable to the wafer lot**
- **Additional testing can be offered upon request**

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

Technical Data
Data Sheet N0643, Rev. -

Green Products

Marking Diagram:



Where XXXXX is YYWWL

SB1E = Part Name
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

Device	Package	Shipping
10BQ030	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 Inverse Voltage	V_{RWM}	-	30	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =100°C, rectangular wave form	1.0	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	108	A

Technical Data
Data Sheet N0643, Rev. -

Green Products

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	V_{F1}	@ 1 A, Pulse, T_J = 25 °C @ 2 A, Pulse, T_J = 25 °C	0.42 0.47	V
	V_{F2}	@ 1 A, Pulse, T_J = 125 °C @ 2 A, Pulse, T_J = 125 °C	0.32 0.37	V
Max. Reverse Current *	I_{R1}	@V_R = Rated V_R, Pulse, T_J = 25 °C	1	mA
	I_{R2}	@V_R = Rated V_R, Pulse, T_J = 125 °C	15	mA
Max. Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	200	PF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	2.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/μs

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

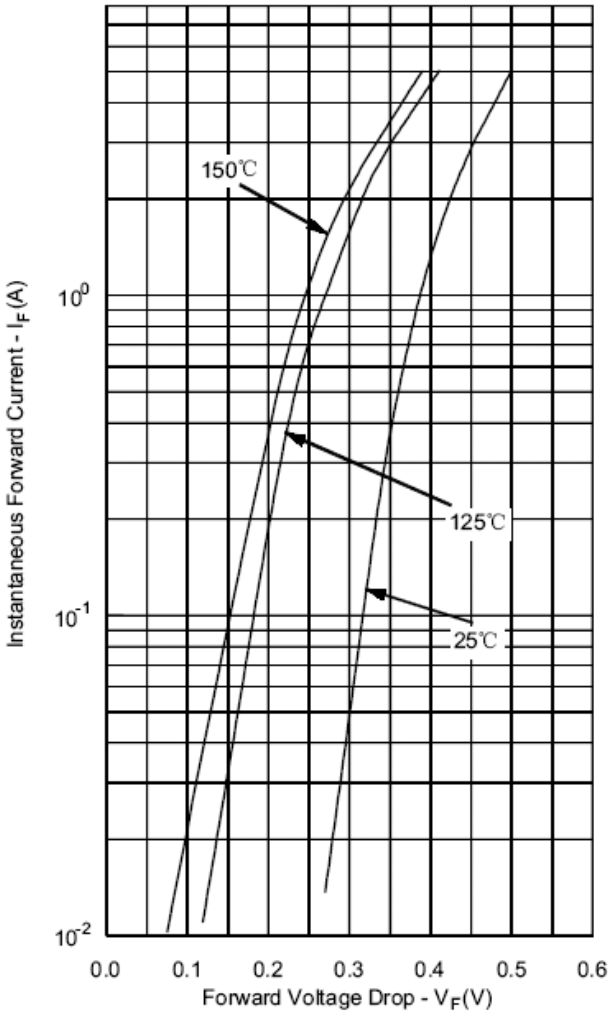
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Lead	$R_{\theta JL}$	DC operation	25	°C/W
Approximate Weight	wt	-	0.68	g
Case Style	SMB			

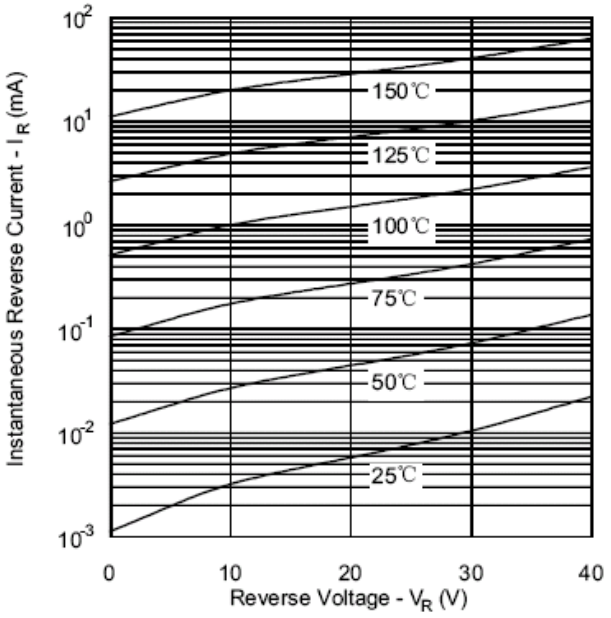
Technical Data
Data Sheet N0643, Rev. -

Green Products

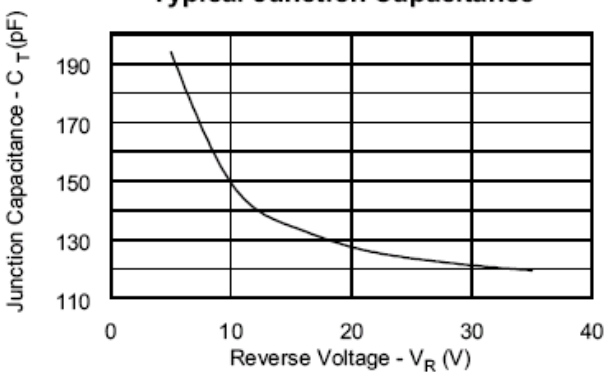
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Technical Data *Green Products*

Data Sheet N0643, Rev. -

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 SMC - Sangdest Microelectronics (Nanjing) Co., Ltd 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 SMC - Sangdest Microelectronics (Nanjing) Co., Ltd 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). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd 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 SMC - Sangdest Microelectronics (Nanjing) Co., Ltd 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 SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

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..

• Weiqi Street, Airport Development Zone, Jiangning District, Nanjing, China 211113 (86) 25-87123907 •
• FAX (86) 25-87123900 • World Wide Web Site - http://www.sangdest.com.cn • E-Mail Address - sales@ sangdest.com.cn •