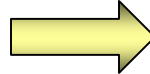
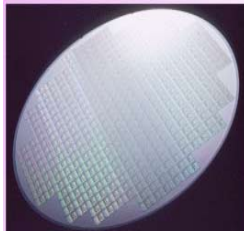


**Announcing *Industry-First*
3 Ampere High Performance SBR[®] Technology
in PowerDI[™]123 Package**

SBR[®]
(Super Barrier Rectifier)



Package Cross Section

Diodes, Inc. patented interlocking clip construction and a flat lead frame heat-sink solder pad result in higher power dissipation and surge capabilities in a compact low profile package

Product Highlights

SBR3U30P1, SBR2U30P1, SBR2A30P1, SBR2A40P1

- SBR[®] Ultra-Low V_F "U" and Low V_F "A" version packaged in high performance PowerDI[™]123 packages for excellent thermal transfer and high power dissipation
- Industry leading 3A current rating (SBR3U30P1) with high maximum junction temperature of 150°C in a miniature package outline
- Highest ESD ± 16 kV HBM (Grade 3B, 16kV) rating and ± 25 kV ESD Protection (IEC61000-4-2 Level 4, Air Discharge)
- Much higher avalanche power rating for ruggedness and high reliability compared to traditional Schottky
- Large safe operating area (SOA) with maximum junction temperature of 150°C provides extra margin for high temperature applications
- Qualified to rigorous AEC-Q101 (automotive) standards for high reliability, compliant with RoHS environmental standards

SBR3M30P1 & SBR2M30P1

- SBR[®] Ultra-Low Leakage "M" version packaged in high performance PowerDI[™]123 packages for excellent thermal transfer and high power dissipation
- Industry leading 3A current rating (SBR3M30P1) with high maximum junction temperature of 175°C in a miniature package outline
- Highest ESD ± 16 kV HBM (Grade 3B, 16kV) rating and ± 25 kV ESD Protection (IEC61000-4-2 Level 4, Air Discharge)
- Much higher avalanche power rating for ruggedness and high reliability compared to traditional Schottky
- Large safe operating area (SOA) with maximum junction temperature of 175°C provides extra margin for high temperature applications
- Qualified to rigorous AEC-Q101 (automotive) standards for high reliability, compliant with RoHS environmental standards

Key Device Specifications

New SBR [®] PowerDI [™] 123 Product Family						
Part No.	Description	Max T _J	ESD Rating	Max Reverse Avalanche Energy	V _F @ 1A, 25°C, Typ	I _R @ 30V, 150°C, Typ
SBR3U30P1	3 Amperes / 30 Volts, Ultra-Low V _F SBR [®]	150°C	± 16 kV HBM	105mJ	0.310V	35mA
SBR2U30P1	2 Amperes / 30 Volts, Ultra-Low V _F SBR [®]	150°C	± 16 kV HBM	105mJ	0.310V	35mA
SBR2A30P1	2 Amperes / 30 Volts, Low V _F SBR [®]	150°C	± 16 kV HBM	-	0.336V	22mA
SBR2A40P1	2 Amperes / 40 Volts, Low V _F SBR [®]	150°C	± 16 kV HBM	-	0.380V	5mA
SBR3M30P1	3 Amperes / 30 Volts, Ultra-Low Leakage SBR [®]	175°C	± 16 kV HBM	105mJ	0.366V	7.3mA
SBR2M30P1	2 Amperes / 30 Volts, Ultra-Low Leakage SBR [®]	175°C	± 16 kV HBM	105mJ	0.366V	7.3mA

PowerDI is a trademark of Diodes Incorporated
SBR is a registered trademark of Diodes Incorporated

Availability

- **Samples:** Now Available!
- **Production Quantity Lead Time:** 6 – 10 weeks
- **Data Sheets Available NOW at:** www.diodes.com

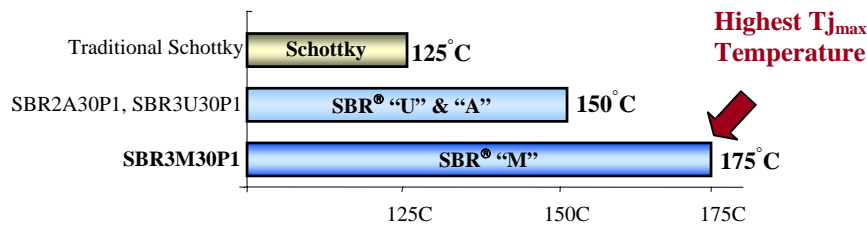
To download selected data sheet, enter p/n in our website Product Data Sheet search, or click,

SBR3U30P1	3 Amperes / 30 Volts Ultra-Low V_F SBR [®]
SBR2U30P1	2 Amperes / 30 Volts Ultra-Low V_F SBR [®]
SBR2A30P1	2 Amperes / 30 Volts Low V_F SBR [®]
SBR2A40P1	2 Amperes / 40 Volts Low V_F SBR [®]
SBR2M30P1	2 Amperes / 30 Volts Ultra-Low Leakage SBR [®]
SBR3M30P1	3 Amperes / 30 Volts Ultra-Low Leakage SBR [®]

Thermal Performance Benefits

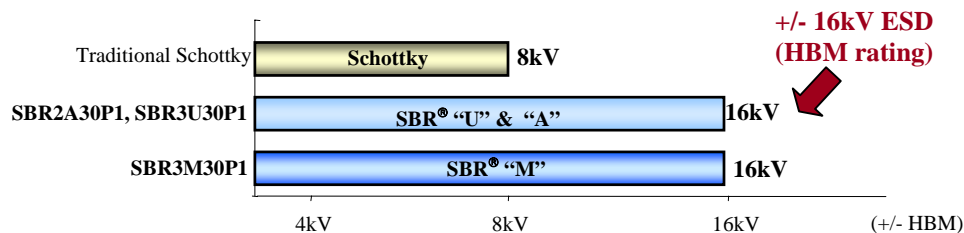
Patented SBR[®] Technology packaged in proprietary PowerDI[™] packages offers substantially higher thermal runaway capability, thus allowing for higher maximum junction temperature compared to traditional Schottky devices

Maximum Junction Temperature (T_j), °C



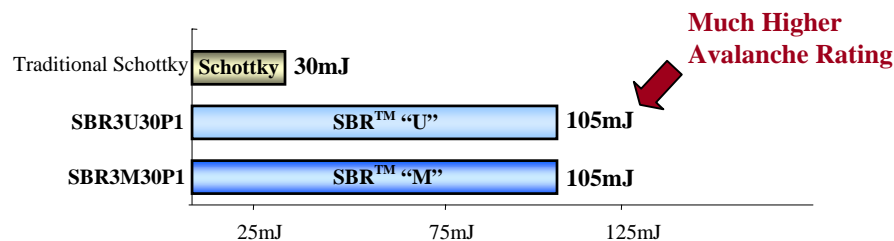
SBR3M30P1, SBR3U30P1 and SBR2A30P1 offers the highest ESD rating (>+/-16kV HBM) compared to traditional Schottky devices

ESD Rating (Human Body Model), kV



Patented SBR[®] Technology offers higher reverse avalanche power capability resulting in a more rugged and reliable product compared to traditional Schottky devices

Reverse Avalanche Energy Rating, mJ



Crosses from Industry Parts

Table comparing similar crosses to competitive product series families of similar or larger physical size

Diodes		Toshiba		NXP (Philips)		Rohm		Vishay	
P/N	Package	P/N	Package	P/N	Package	P/N	Package	P/N	Package
SBR3U30P1	PowerDI123	CRS01	S-Flat	PMEG3020EH	SOD-123F	RSX101M-30	PMDU	MBR130LSFT1	SOD-123FL
SBR2U30P1	PowerDI123	CRS01	S-Flat	PMEG3020EH	SOD-123F	RSX101M-30	PMDU	MBR130LSFT1	SOD-123FL
SBR2A30P1	PowerDI123	CRS01	S-Flat	PMEG3020EH	SOD-123F	RSX101M-30	PMDU	MBR130LSFT1	SOD-123FL
SBR2A40P1	PowerDI123	CRS01	S-Flat	PMEG4010EH	SOD-123F	RB160M-40	PMDU	MBR140SFT1	SOD-123FL
SBR3M30P1	PowerDI123	CRS02	S-Flat	PMEG4010EH	SOD-123F	RB060M-30	PMDU	MBR130LSFT1	SOD-123FL
SBR2M30P1	PowerDI123	CRS02	S-Flat	PMEG4010EH	SOD-123F	RB060M-30	PMDU	MBR130LSFT1	SOD-123FL

End-User Applications

- Disk Drives
- Cellular Phones
- Power Management Circuits
- DC/DC Converters
- Portable Hand-Held Electronics
- High Temperature Automotive Applications

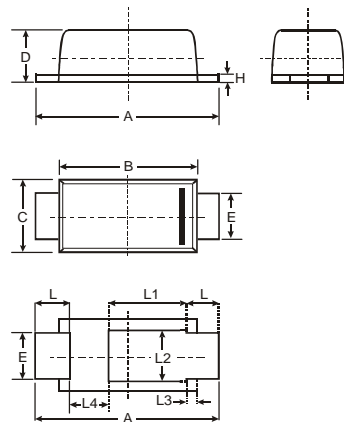
Circuit Applications

- Output Rectifiers
- Boost Diode
- Free Wheeling Diodes
- Catch Diode
- Reverse Polarity Protection

Solderability & Environmental Highlights

- RoHS Compliant
- "Green" (No Bromine, Antimony) Molding Compound
- Pb-Free, 100% Matte Tin Plating
- Withstands 260°C Solder Reflow
- Meets Moisture Sensitivity Level (MSL) 1

Package Outline Dimensions (mm)



PowerDI™123			
Dim	Min	Max	Typ
A	3.50	3.90	3.70
B	2.60	3.00	2.80
C	1.63	1.93	1.78
D	0.93	1.00	0.98
E	0.85	1.25	1.00
H	0.15	0.25	0.20
L	0.45	0.85	0.65
L1	—	—	1.35
L2	—	—	1.10
L3	—	—	0.20
L4	0.90	1.30	1.05
All Dimensions in mm			

PowerDI is a trademark of Diodes Incorporated.
SBR is a registered trademark of Diodes Incorporated