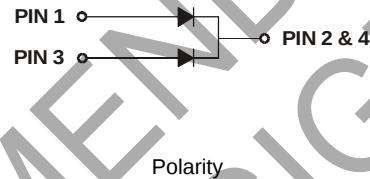


Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 250A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications

Mechanical Data

- Case: TO263
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Tin. Solderable per MIL-STD-202, Method 208^③
- Polarity: See Diagram
- Weight: 1.7 grams (Approximate)

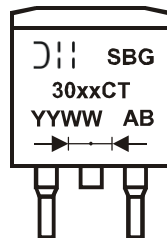


Ordering Information (Note 1)

Part Number	Case	Packaging
SBG3030CT-T-F	TO263	800/Tape & Reel, 13-inch
SBG3040CT-T-F	TO263	800/Tape & Reel, 13-inch
SBG3045CT-T-F	TO263	800/Tape & Reel, 13-inch

Note: 1. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



SBG30xxCT = Product Type Marking Code Where
xx = 30, 40, or 45 Depending on Device Type
SBG = Manufacturers' Code Marking
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 02 for 2002)
WW = Week Code (01 to 53)
AB = Foundry and Assembly Code

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

Characteristic	Symbol	SBG 3030CT	SBG 3040CT	SBG 3045CT	Unit
Peak Repetitive Reverse Voltage	V _{RRM}				
Working Peak Reverse Voltage	V _{RWM}	30	40	45	V
DC Blocking Voltage (Note 2)	V _R				
RMS Reverse Voltage	V _{R(RMS)}	21	28	32	V
Average Rectified Output Current @ T _C = +100°C	I _O		30		A
Non-Repetitive Peak Forward Surge Current	I _{FSM}		250		A
8.3ms Single Half Sine-wave Superimposed On Rated Load					

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 3)	R _{θJC}	1.5	°C/W
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage, Per Element @ I _F = 15A, T _C = +25°C	V _{FM}	0.55	V
Peak Reverse Current @ T _J = +25°C	I _{RM}	1.0	mA
at Rated DC Blocking Voltage (Note 2)		75	
Typical Total Capacitance (Note 4)	C _T	420	pF

- Notes:
2. Short duration pulse test used to minimize self-heating effect.
 3. Thermal resistance junction to case mounted on heatsink.
 4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC and per element.

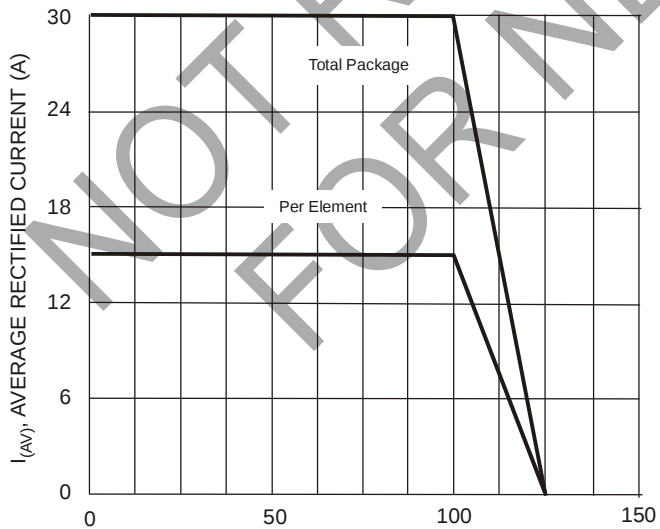


Fig. 1 Forward Derating Curve

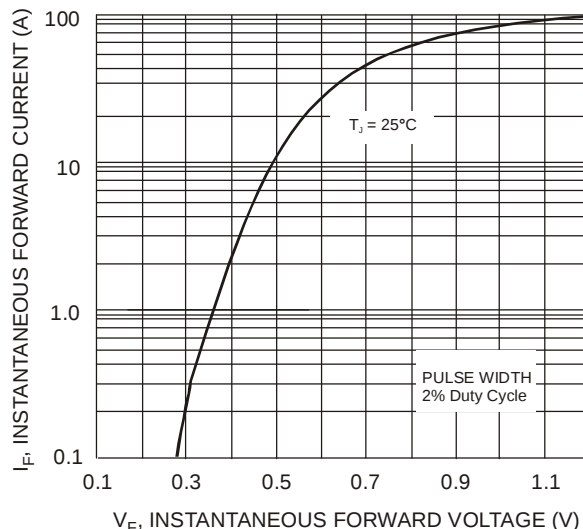
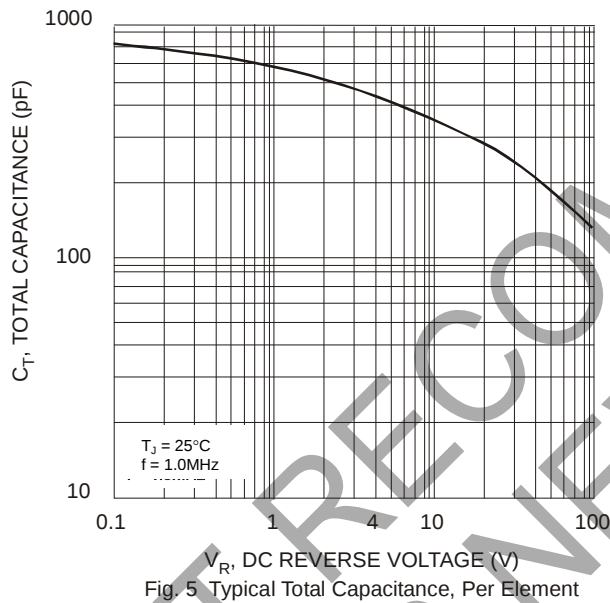
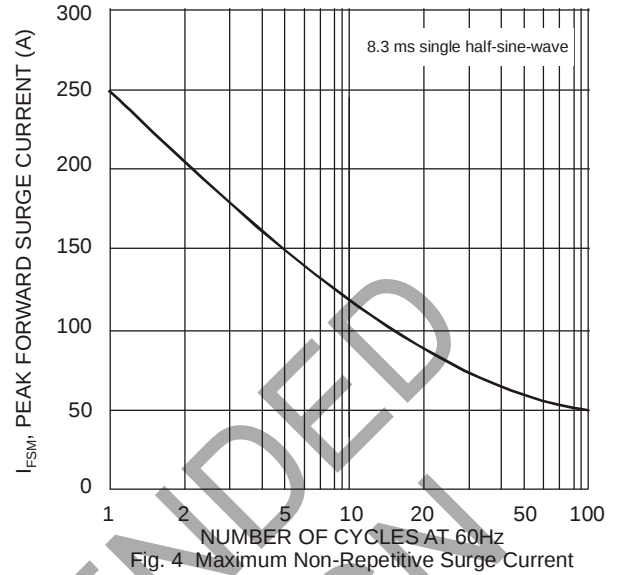
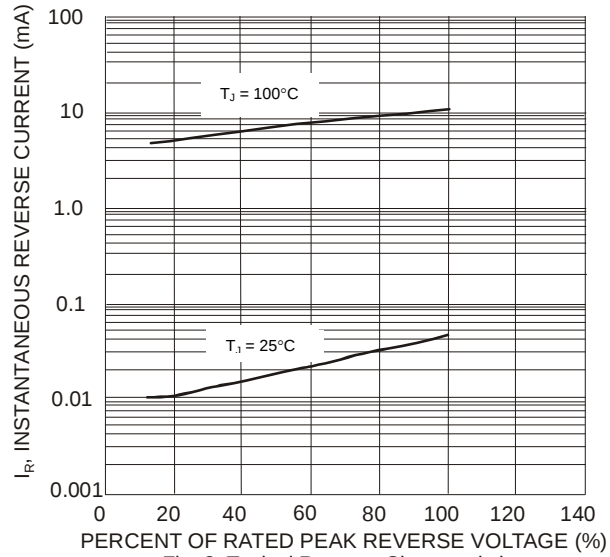


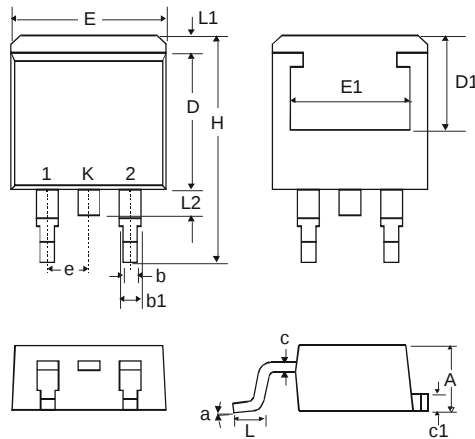
Fig. 2 Typical Forward Characteristics, Per Element



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TO263

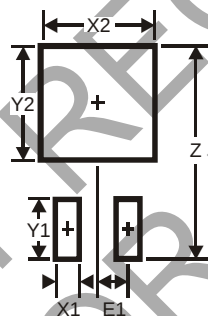


TO263		
Dim	Min	Max
A	4.07	4.82
b	0.51	0.99
b1	1.15	1.77
c	0.356	0.58
c1	1.143	1.65
D	8.39	9.65
D1	6.55	—
E	9.66	10.66
E1	6.23	—
e	2.54 Typ	
H	14.61	15.87
L	1.78	2.79
L1	—	1.67
L2	—	1.77
a	0°	8°
All Dimensions in mm		

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TO263



Dimensions	Value (in mm)
Z	16.9
X1	1.1
X2	10.8
Y1	3.5
Y2	7.01
E1	2.5

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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