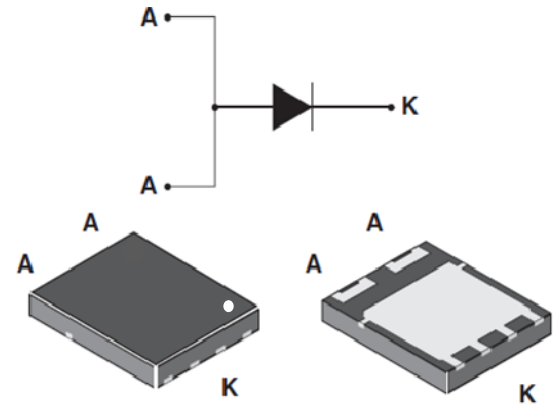


Product Specification

Ultra Low Vf=0.40V at IF=10A (25° C)

GOODARK Type (POWER QFN Diode)
SMBRP1545

Construction : Schottky Barrier Rectifier
Application : For General Purpose
(Manufacturer) :
Suzhou Goodark Electronics Co.,Ltd
Prepared on Aug. 18th, 2012
Prepared: R & D Department
Approval: QRA Department



SCHOTTKY BARRIER RECTIFIER
15 AMPERES
45 VOLTS

0.30V (1A Type)/ Ultra- Low Vf Schottky
0.40V (10A Type)/ Ultra-Low Vf Schottky
0.43V(15A Type)/ Ultra-Low Vf Schottky
Thin Package: 1.0mm
Halogen Free Package

CONTENTS

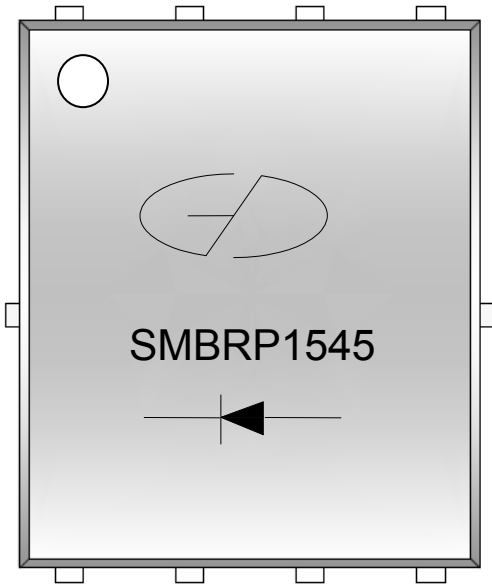
1. Package Outline
2. Marking
3. Features& Mechanical Characteristics
4. Maximum Ratings and Electrical Characteristics
5. Rating and characteristic Curves
6. Packing Specification PACKAGING SPECIFICATION
7. Description of Box Label



Technical drawing of a rectangular component with four views: top, front, side, and cross-section. Dimensions are in mm.

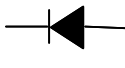
- Top View:** Shows a rectangular shape with a central slot. Dimensions include a width of 6.10 ± 0.20 , a slot width of 5.80 ± 0.20 , and a slot depth of 1.27 ± 0.10 . Corner chamfers are specified as $10^\circ \pm 2^\circ$.
- Front View:** Shows the component's profile with a total height of 4.90 ± 0.20 and a base thickness of 1.0 ± 0.10 . A small feature at the top center has a width of 0.15 ± 0.10 .
- Side View:** Shows the component's profile with a total height of 5.20 ± 0.20 and a base thickness of 1.0 ± 0.10 . A small feature at the top center has a width of 0.15 ± 0.10 .
- Cross-section View:** Shows the internal structure with a total width of 6.63 ± 0.10 (split into 0.63 ± 0.10 and 5.40 ± 0.10). The central slot has a width of 3.50 and a depth of 3.81 ± 0.10 . The base thickness is 0.35 ± 0.10 .

2.MARKING



1. Part Name : SMBRP1545

2. Logo Mark: 

3. Polarity: 



3.Features& Mechanical Characteristics

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- For surface mounted application
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection
- For use in low voltage, high frequency inverters,
- Free wheeling, and polarity protection applications

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.1grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Shipped tape reel packing 3000/reel

4.Maximum Ratings and Electrical Characteristics

MAXIMUM RATINGS and ELECTRICAL CHARACTERISTICS(TC=25°C unless otherwise moted)					
PARAMETER	TEST CONDITIONS		SYMBOL	SMBRP1545	UNIT
Maximum repetitive peak reverse voltage			VRRM	45	V
Working peak reverse voltage			VRWM	45	V
Maximum DC blocking voltage			VDC	45	V
Maximum average forward rectified current at Tc=105°C total device per diode			IF(AV)	15	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			IFSM	200	A
Peak repetitive reverse current per leg at tp=2.0us , 1KHz			IRRM	1.0	A
Voltage rate of change (rated VR)			DV/dt	10000	V/us
Operating junction temperature range			TJ	—55 to+150	°C
Storage temperature range			TSTG	—55 to+150	°C
Maximum instantaneous forward voltage per leg	IF=1A IF=10A IF=15A	TC=25°C TC=25°C TC=25°C	VF	0.30(Type) 0.43/(0.40Type) 0.47	V
Maximum reverse current per leg at working peak Reverse voltage		TJ=25°C	IR	500	uA

Thermal Characteristics Ta=25°C unless otherwise noted

Symbol	Parameter	Type Value	Unit
RθJC	Thermal Resistance, Junction to Case per Leg	2.5	°C /W
RθJA	Thermal Resistance, Junction to Ambient per Leg	50	°C /W

Note:

1. Pulse test:300us pulse width, duty cycle=2%

5. Rating and Characteristic Curves

($T_c = 25^\circ\text{C}$ Unless otherwise noted)

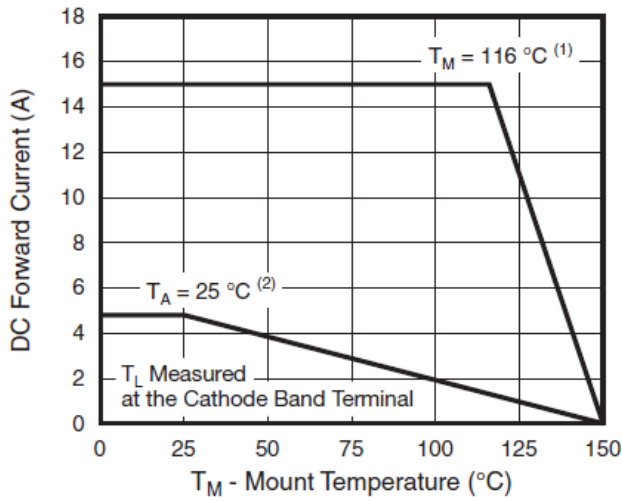


Fig. 1 - Forward Current Derating Curve

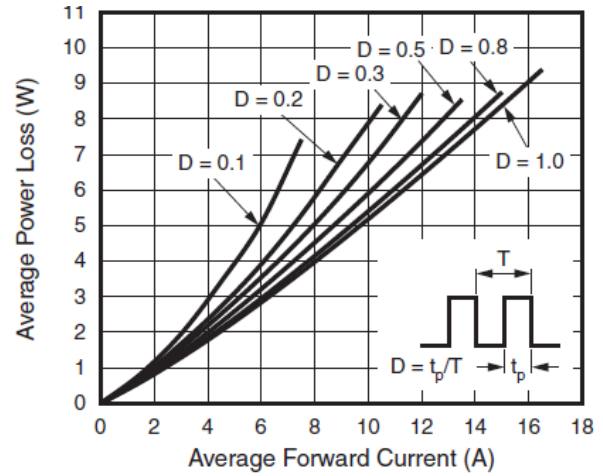


Fig. 2 - Forward Power Loss Characteristics Per Diode

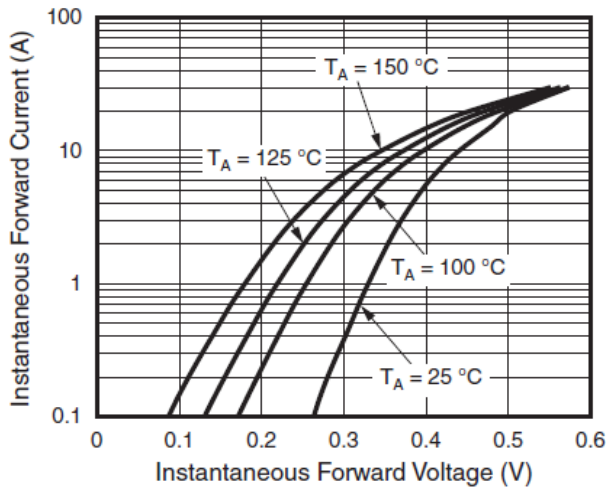


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

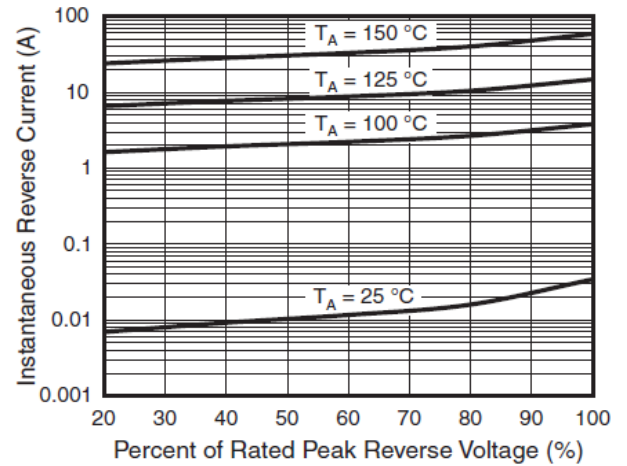


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

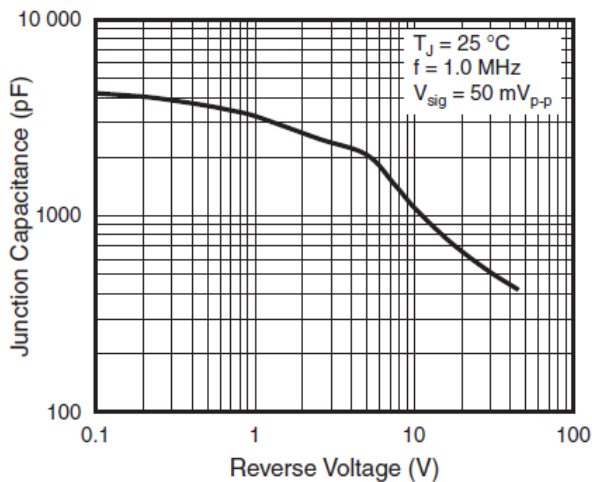


Fig. 5 - Typical Junction Capacitance

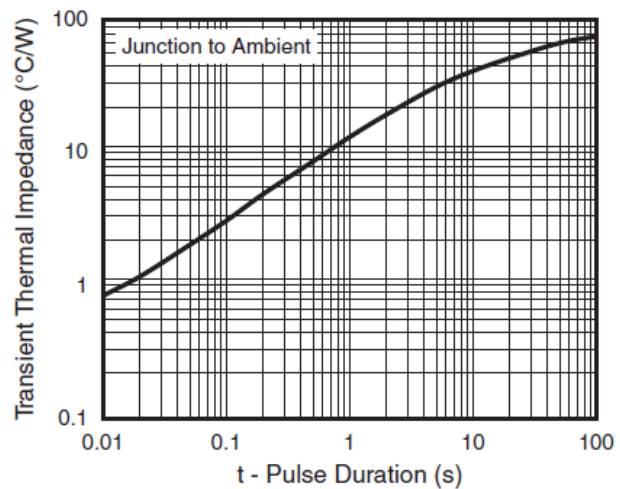


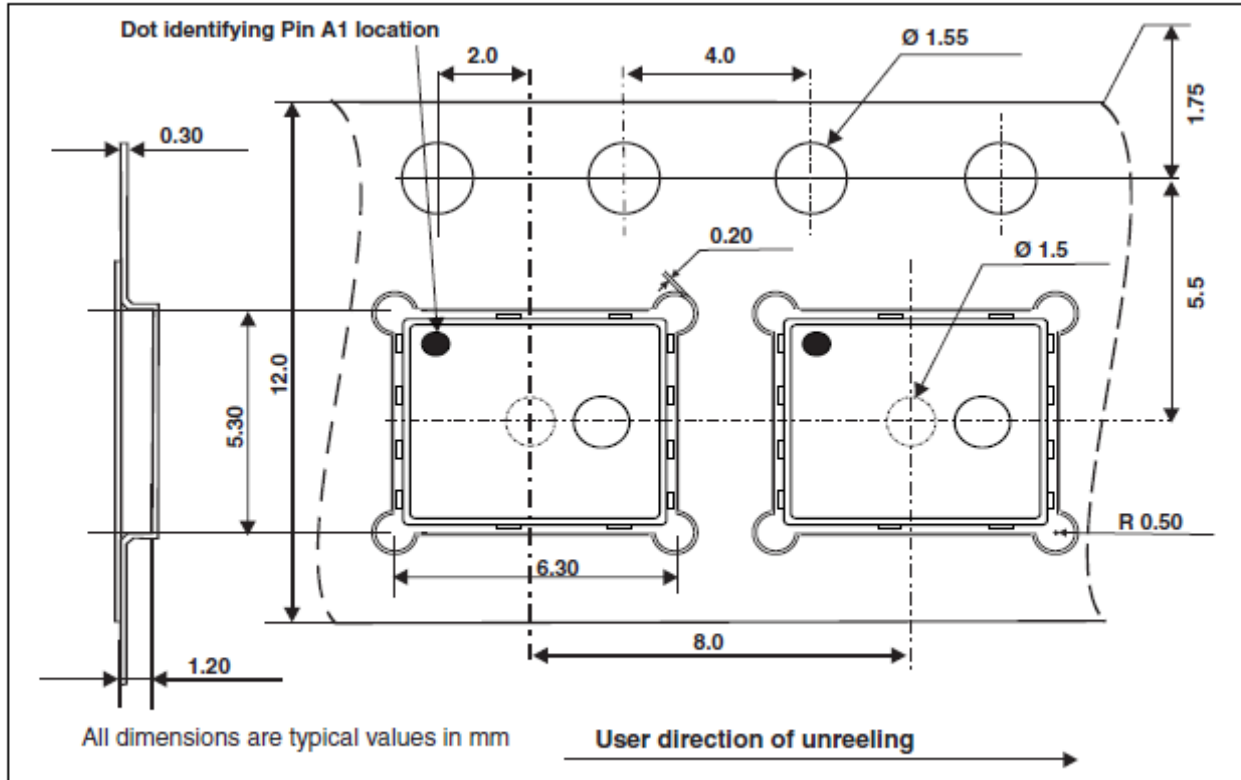
Fig. 6 - Typical Transient Thermal Impedance Per Diode

6. Packing Specification

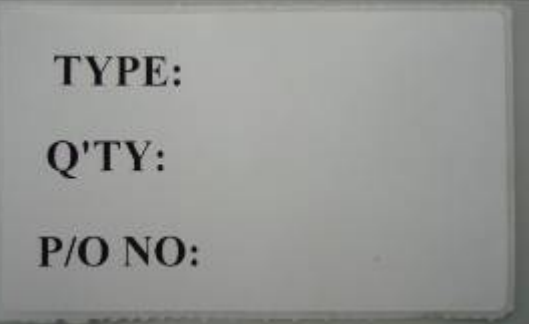
Tape&reel packing

Packing size:3000 /reel(13' reel)

Figure 12. Tape and reel specifications



7. DESCRIPTION of BOX LABEL

	
1) Inner Box Label	2) Inner Box Label
	
3) Outer Box Label	4) Outer Box Label