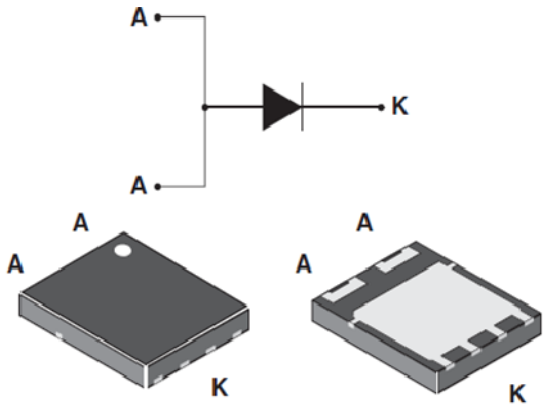
Product Specification

Ultra Low Vf=0.38V at IF=10A / Vf=0.25V at IF=1A/(25° C)

GOODARK Type (**POWER QFN Diode)**

SMBRP1045

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

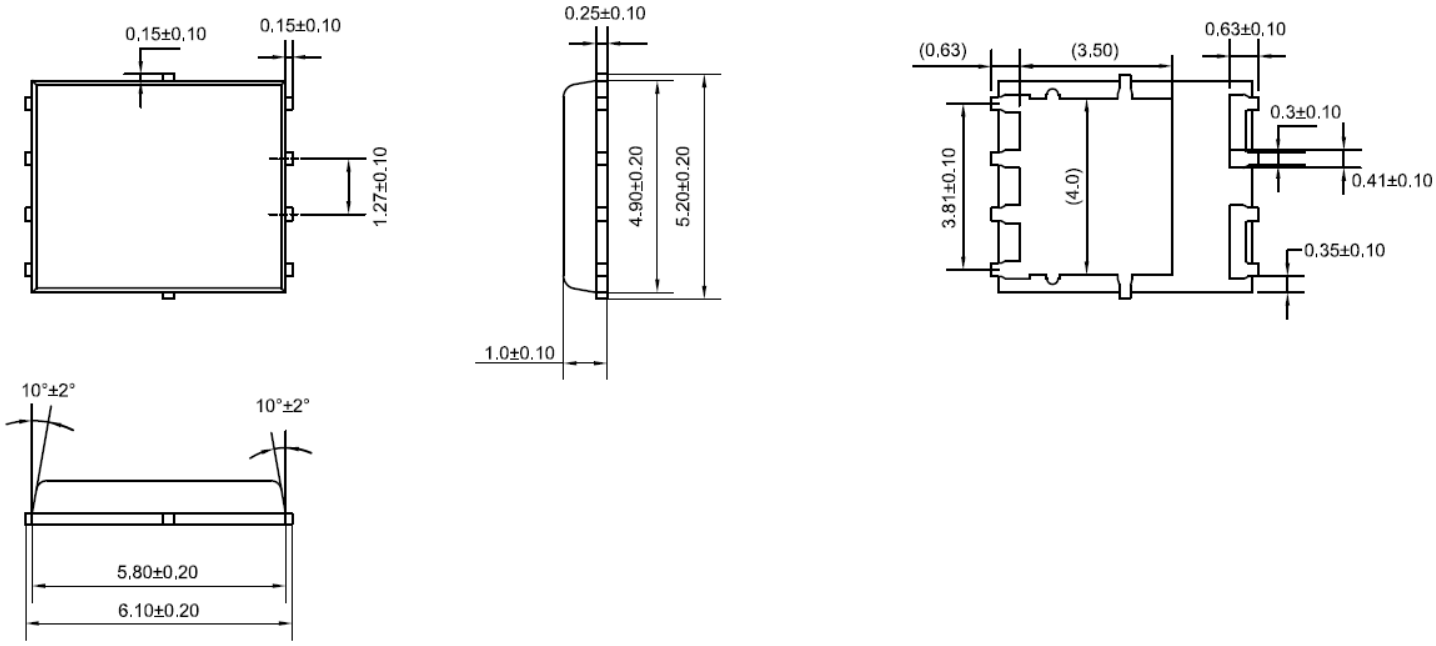


SCHOTTKY BARRIER RECTIFIER
10 AMPERES
45 VOLTS
0.25V (1A Type)/ Ultra- Low Vf Schottky
0.38V (10A Type)/ Ultra-Low Vf Schottky
Thin Package: 1.0mm
Halogen Free Package

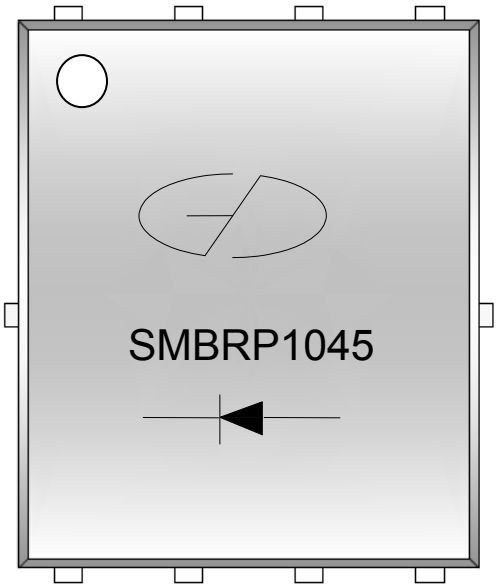
CONTENTS

HALOGEN FREE
RoHS COMPLIANT

1. Package Outline (POWER QFN5X6)



2.MARKING



1. Part Name : SMBRP1045
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**	**SMBRP1045**	**UNIT**
Maximum repetitive peak reverse voltage			V_{RRM}	45	V
Working peak reverse voltage			V_{RWM}	45	V
Maximum DC blocking voltage			V_{DC}	45	V
Maximum average forward rectified current at Tc=105°C total device per diode			$I_{F(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	250	A
Peak repetitive reverse current per leg at tp=2.0us ， 1KHz			I_{RRM}	1.0	A
Voltage rate of change（rated VR）			DV/dt	10000	V/us
Operating junction temperature range			T_J	—55 to+150	°C
Storage temperature range			T_{STG}	—55 to+150	°C
Maximum instantaneous forward voltage per leg	IF=1A IF=10A IF=10A IF=15A IF=15A	TC=25℃ TC=25℃ TC=125℃ TC=25℃ TC=125℃	VF	**0.25(Type)** 0.42/**(0.38Type)** 0.33 0.46 0.39	V
Maximum reverse current per leg at working peak Reverse voltage		TJ=25℃ TJ=100°C	IR	500 50	uA mA

Thermal Characteristics Ta=25℃ unless otherwise noted

Symbol	**Parameter**	**Max**	**Unit**
RθJC	**Thermal Resistance，Junction to Case per Leg**	**2.0**	**°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

(Tc=25℃ Unless otherwise noted)

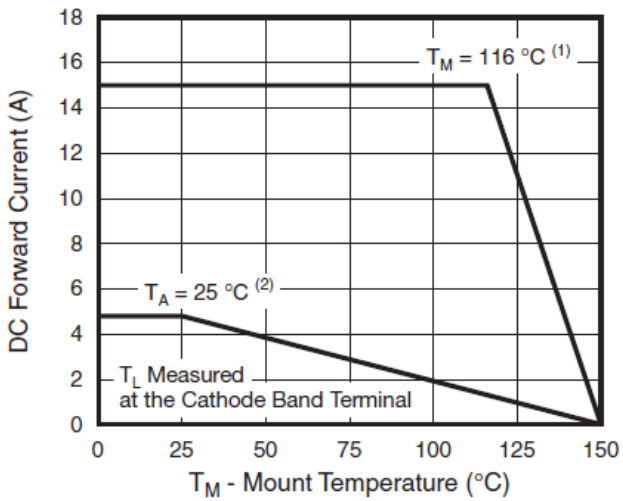


Fig. 1 - Forward Current Derating Curve

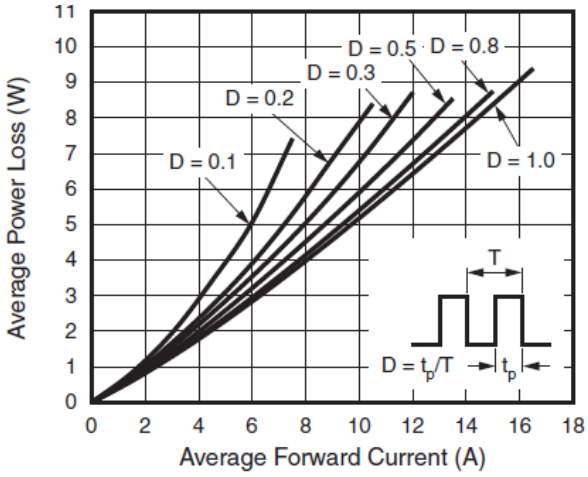


Fig. 2 - Forward Power Loss Characteristics Per Diode

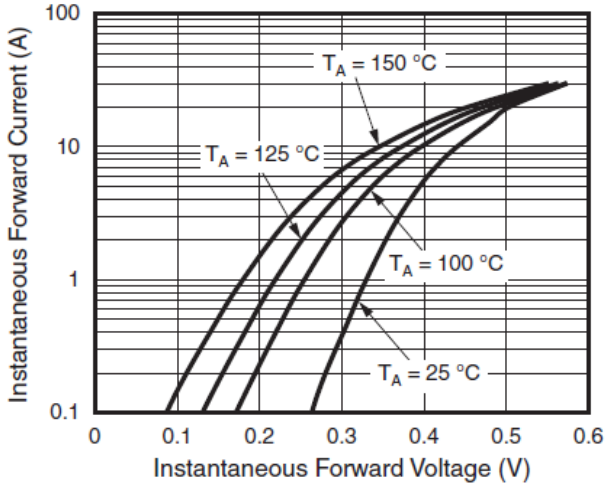


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

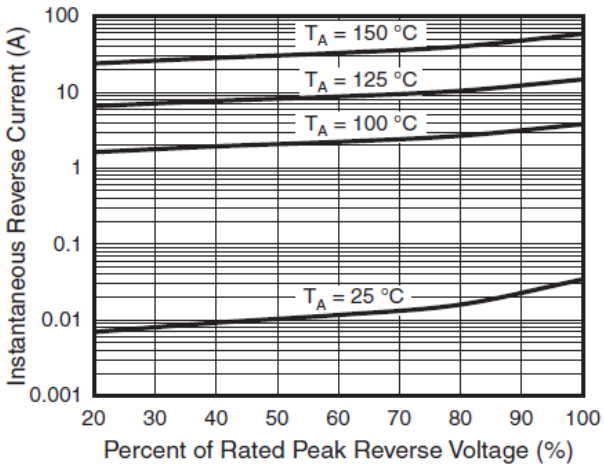


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

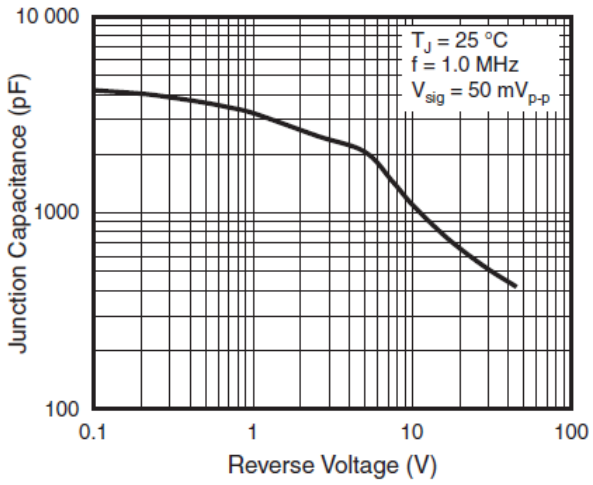


Fig. 5 - Typical Junction Capacitance

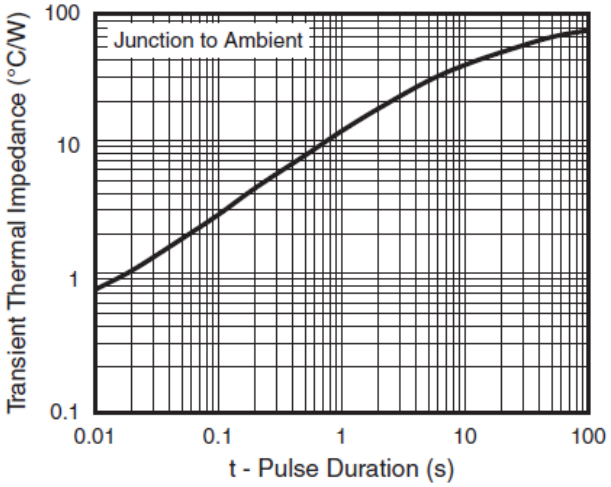


Fig. 6 - Typical Transient Thermal Impedance Per Diode

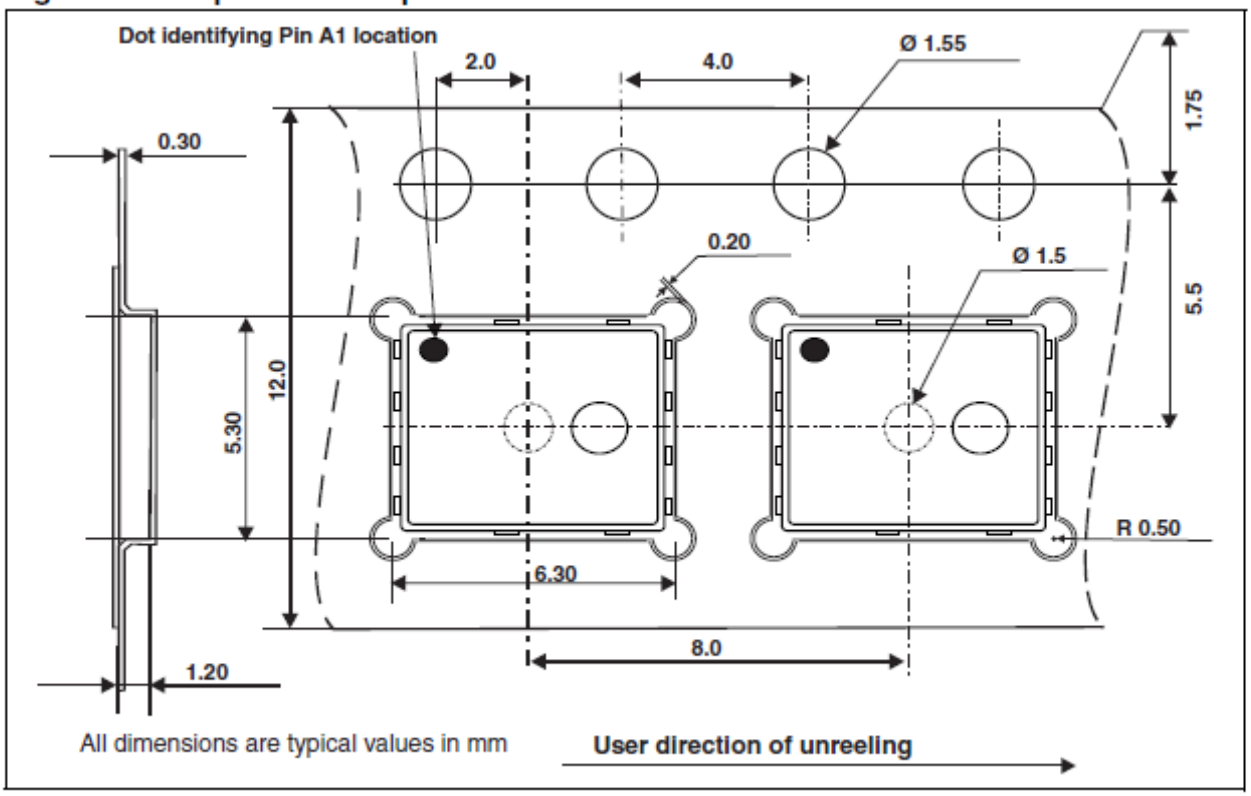
HALOGEN FREE RoHS COMPLIANT

6. Packing Specification

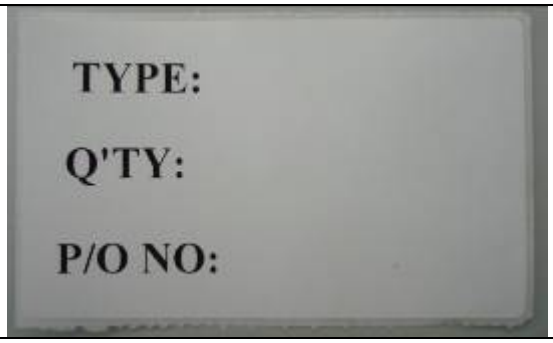
Tape&reel packing

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