

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

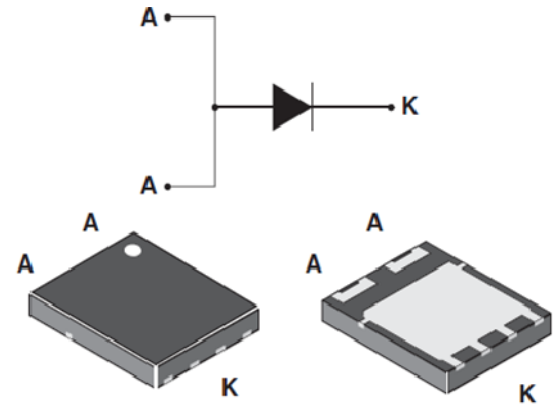
(Manufacturer) :

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

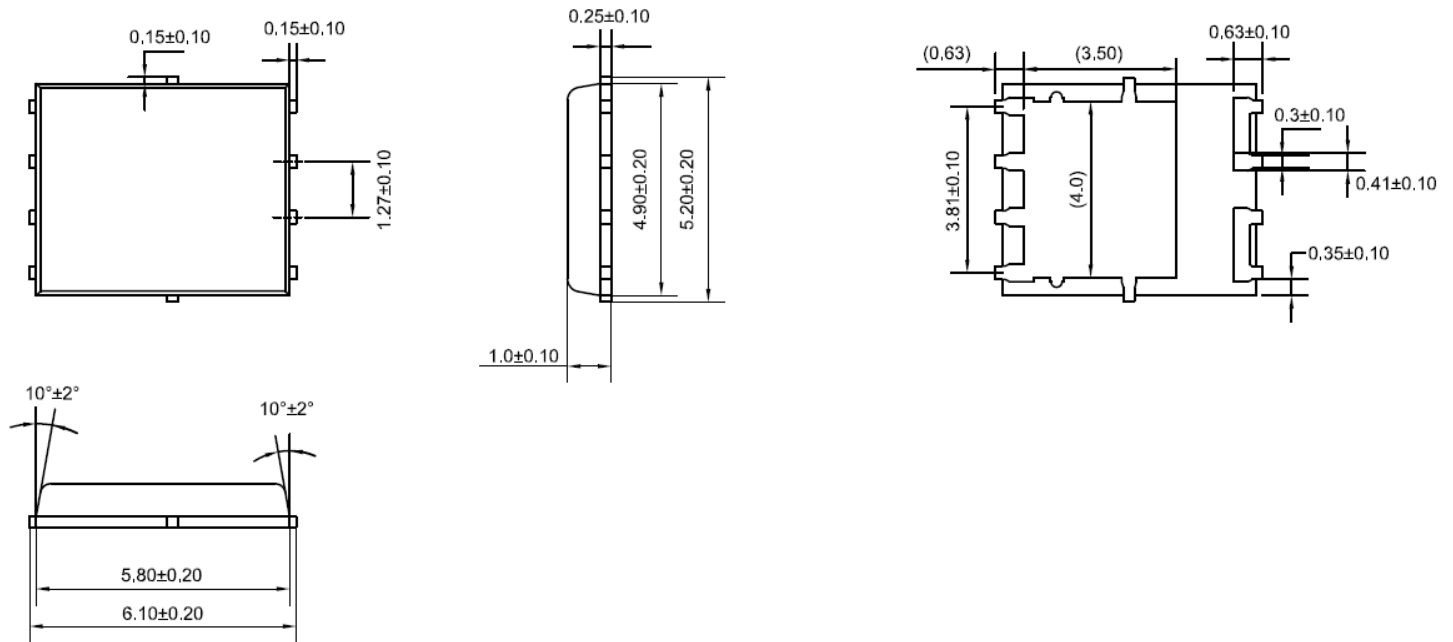
Thin Package: 1.0mm

Halogen Free Package

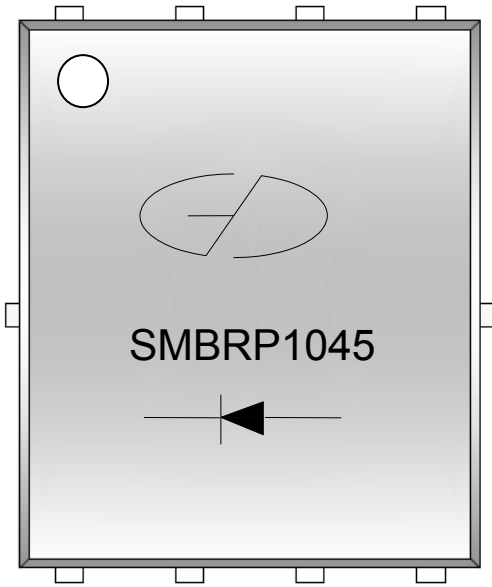
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1. Package Outline (POWER QFN5X6)

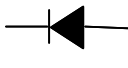


2.MARKING



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			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)	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			IFSM	250	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=10A IF=15A IF=15A	TC=25°C TC=25°C TC=125°C TC=25°C TC=125°C	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°C TJ=100°C	IR	500 50	uA mA

Thermal Characteristics Ta=25°C 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

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

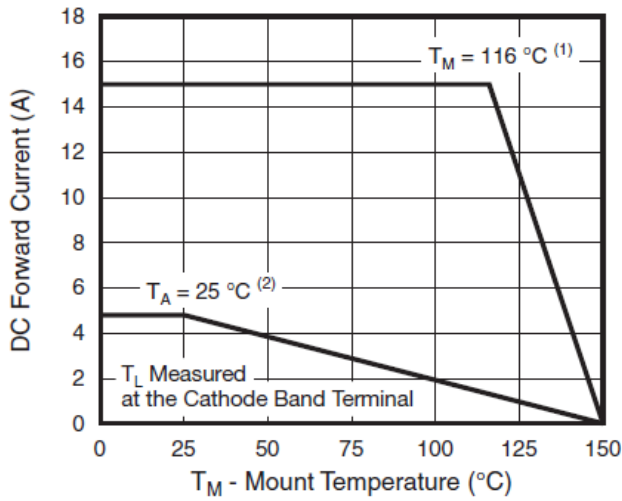


Fig. 1 - Forward Current Derating Curve

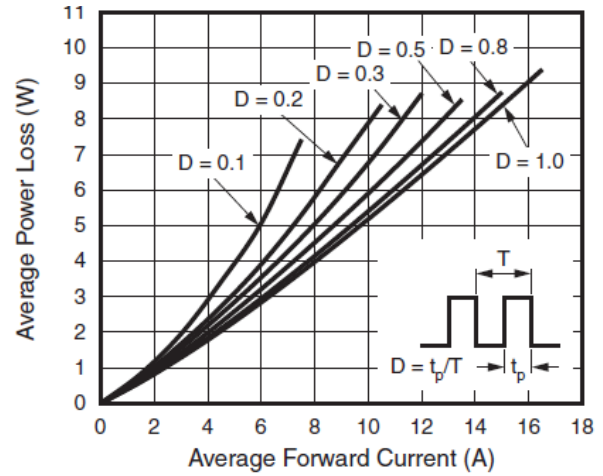


Fig. 2 - Forward Power Loss Characteristics Per Diode

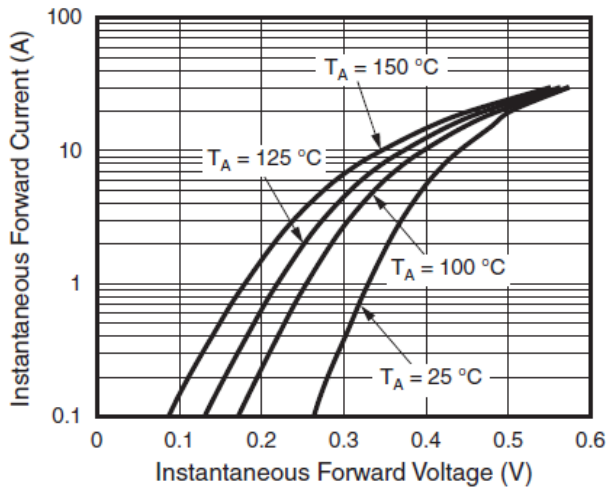


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

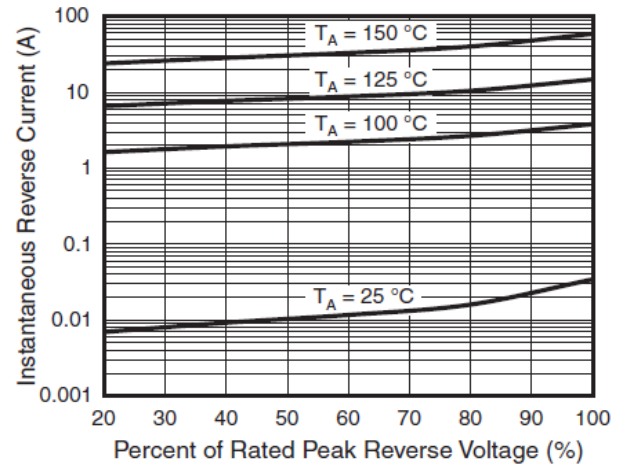


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

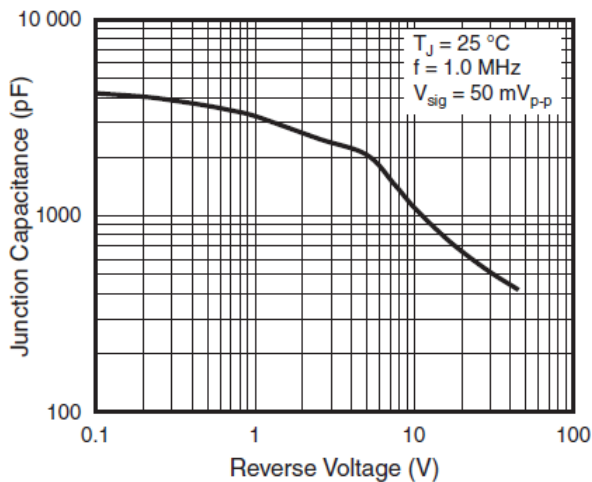


Fig. 5 - Typical Junction Capacitance

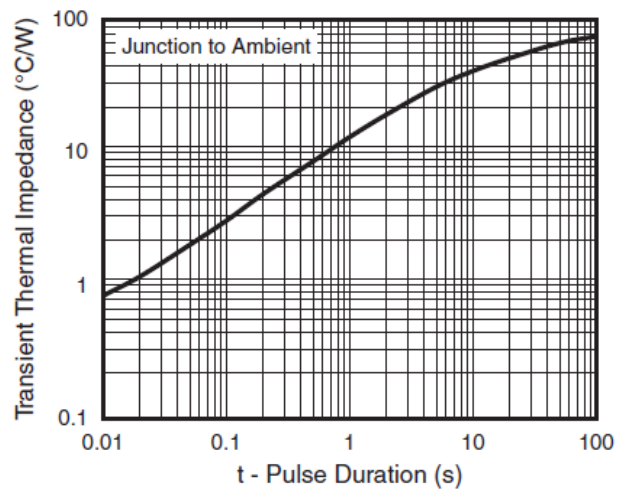


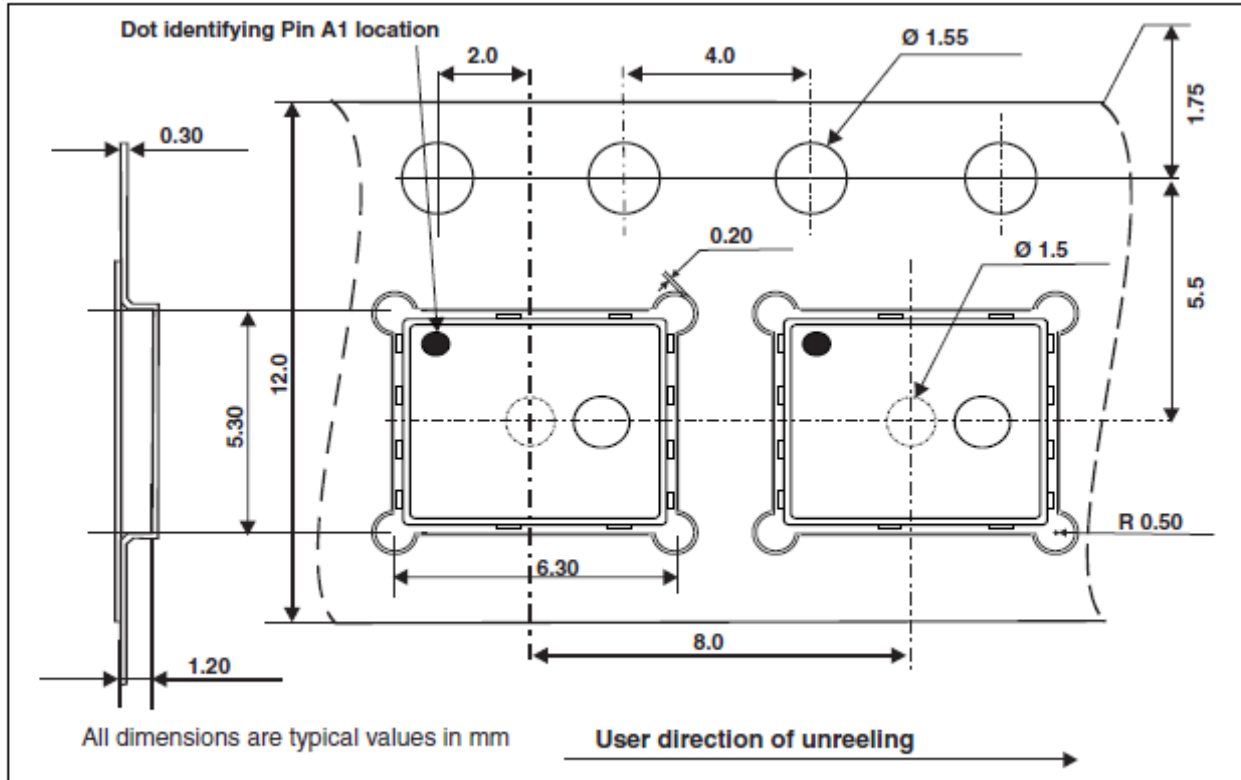
Fig. 6 - Typical Transient Thermal Impedance Per Diode

6. Packing Specification

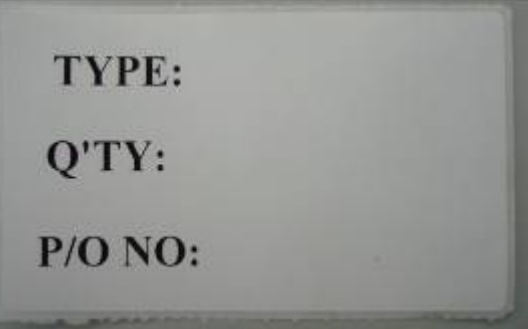
Tape&reel packing

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