



SMBRP1545 Schottky Barrier Rectifier

Features

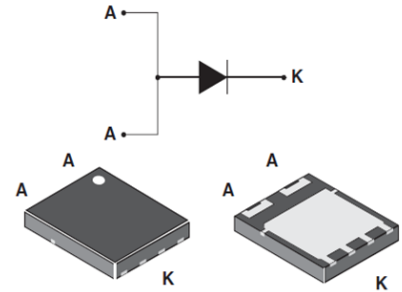
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low forward voltage, high efficiency
- Guarding for over voltage protection

Applications

- Low voltage, high frequency inverters
- Free wheeling and polarity protection applications
- Power management

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.1 grams (approximately)
- Finish: All external surfaces corrosion resistant and terminal leads are solderable
- Tape reel packing 3000/reel



CASE: POWER QFN 5X6

Maximum Ratings and Electrical Characteristics (TC=25°C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	SMBRP1545	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			$I_{F(AV)}$	15	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	$I_F=1A$ $I_F=10A$ $I_F=15A$	$T_C=25^\circ C$ $T_C=25^\circ C$ $T_C=25^\circ C$	V_F	0.30(Typ) 0.43/(0.40Typ) 0.47/(0.43Typ)	V
Maximum reverse current per leg at working peak Reverse voltage	$T_J=25^\circ C$		I_R	500	uA

Thermal Characteristics Ta=25°C unless otherwise noted

Symbol	Parameter	Typ 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%



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Rating and Characteristic Curves ($T_c=25^\circ\text{C}$ unless otherwise noted)

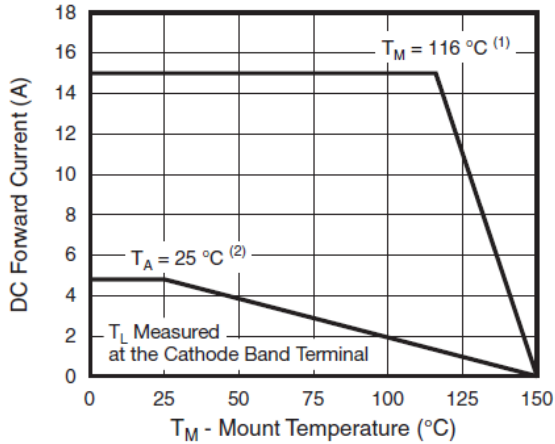


Fig. 1 - Forward Current Derating Curve

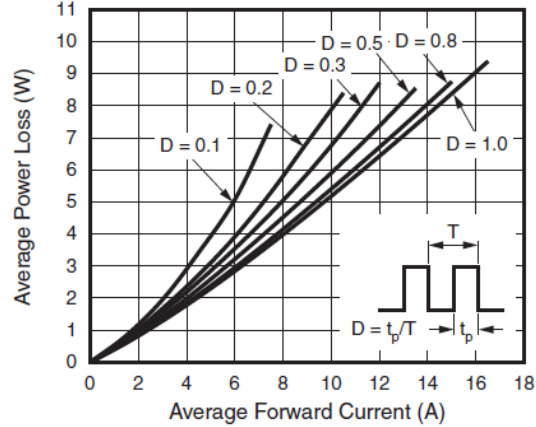


Fig. 2 - Forward Power Loss Characteristics Per Diode

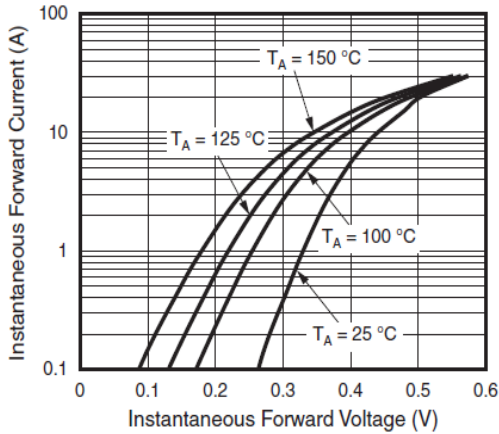


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

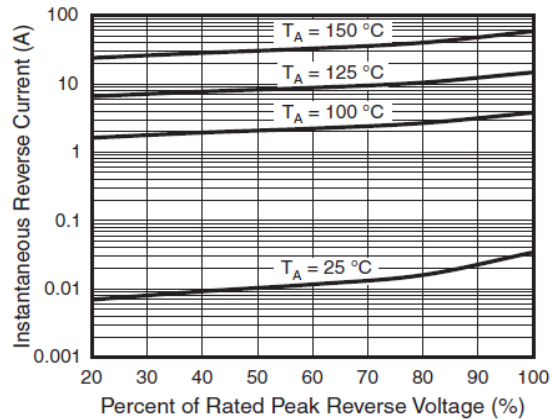


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

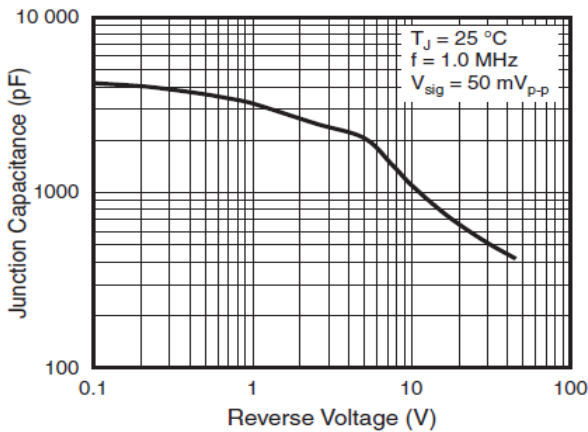


Fig. 5 - Typical Junction Capacitance

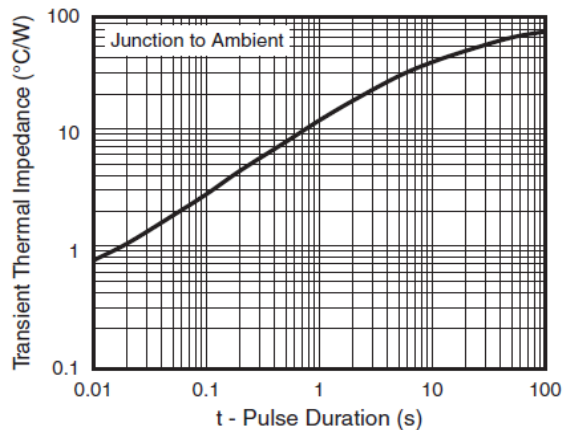
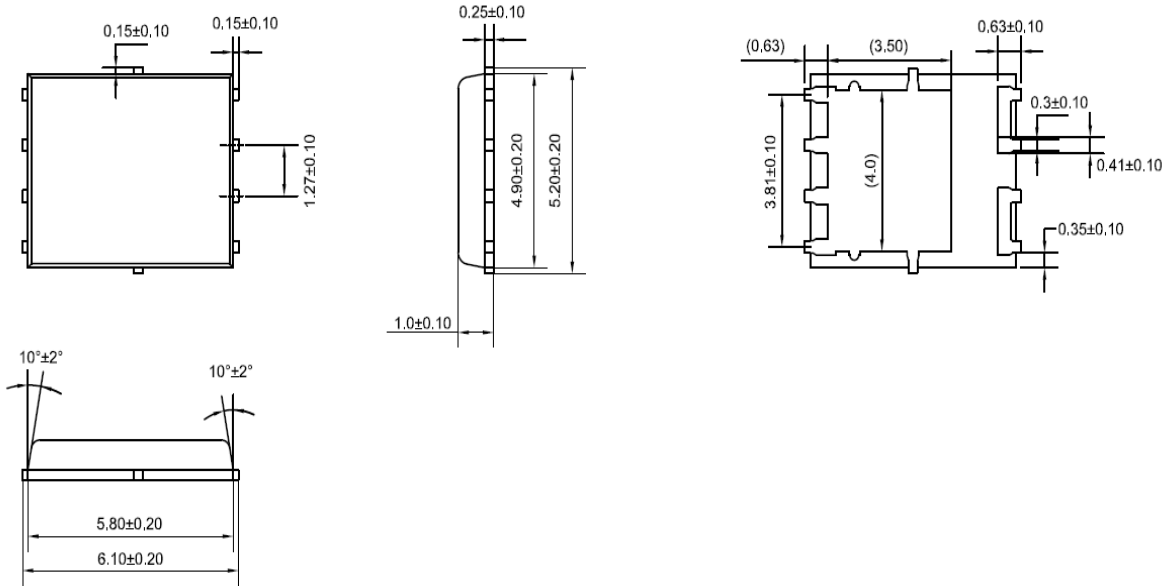


Fig. 6 - Typical Transient Thermal Impedance Per Diode



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Package Outline (POWER QFN5X6)



Part Marking



SMBRP1545

