

Schottky Barrier Rectifier Surface Mount

multicomp PRO

RoHS
Compliant



Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Built-in strain relief, ideal for automated placement
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 250°C/10 seconds at terminals

Absolute Maximum Ratings (Ta = 25°C Unless otherwise specified)

Parameter	Symbol	SS545L Value	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	45	V
Maximum RMS voltage	V _{RMS}	31.5	
Maximum DC blocking voltage	V _{DC}	45	
Maximum average forward rectified current at T _L =100°C	I _(AV)	5	A
Peak forward surge current, 8.3ms single halfsine-wave superimposed on rated load	I _{FSM}	120	
Maximum instantaneous forward voltage at 5A	V _F	0.48	V
Maximum DC reverse current T _A =25°C	I _R	0.5	mA
at rated DC blocking voltage T _A =125°C		50	
Typical thermal resistance	R _{qJA}	80	°C/W
Operating Junction Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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Recommended Reflow Solder Profiles

The recommended reflow solder profiles for Pb and Pb-free devices are shown below.

Figure 1 shows the recommended solder profile for devices that have Pb-free terminal plating, and where a Pb-free solder is used.

Figure 2 shows the recommended solder profile for devices with Pb-free terminal plating used with leaded solder, or for devices with leaded terminal plating used with a leaded solder.

Figure 1

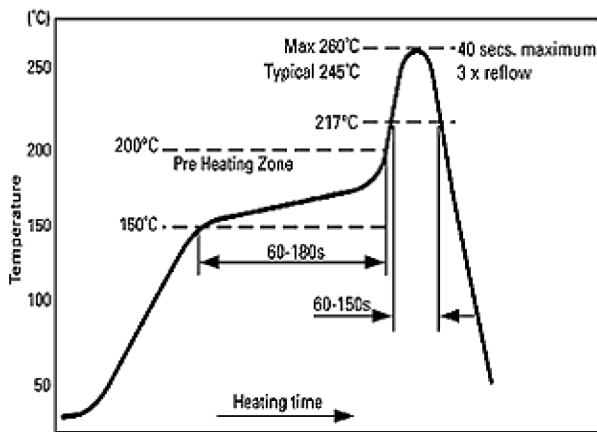
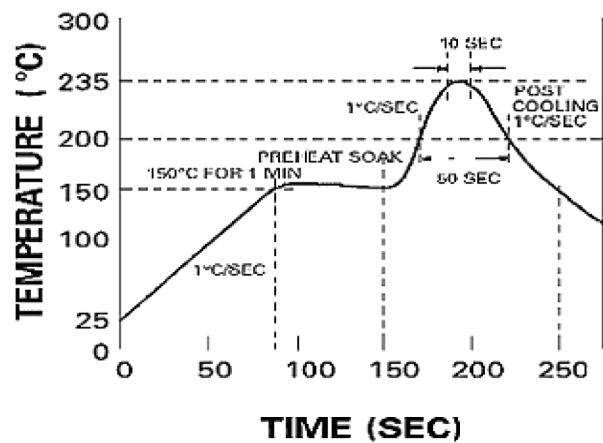


Figure 2



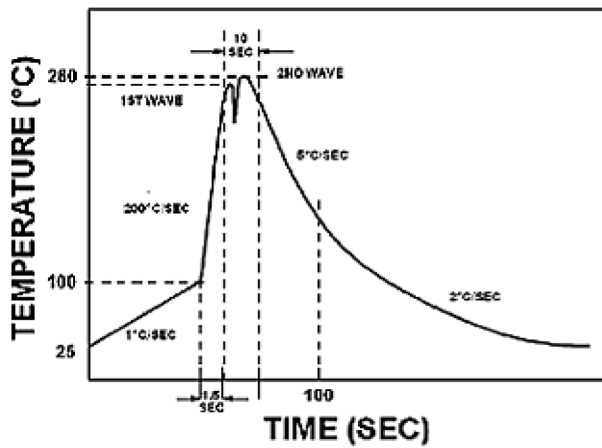
Reflow profiles in tabular form

Profile Feature	Sn-Pb System	Pb-Free System
Average Ramp-Up Rate	~3°C/second	~3°C/second
Preheat – Temperature Range – Time	150-170°C 60-180 seconds	150-200°C 60-180 seconds
Time maintained above: – Temperature – Time	200°C 30-50 seconds	217°C 60-150 seconds
Peak Temperature	235°C	260°C max.
Time within +0 -5°C of actual Peak	10 seconds	40 seconds
Ramp-Down Rate	3°C/second max.	6°C/second max.

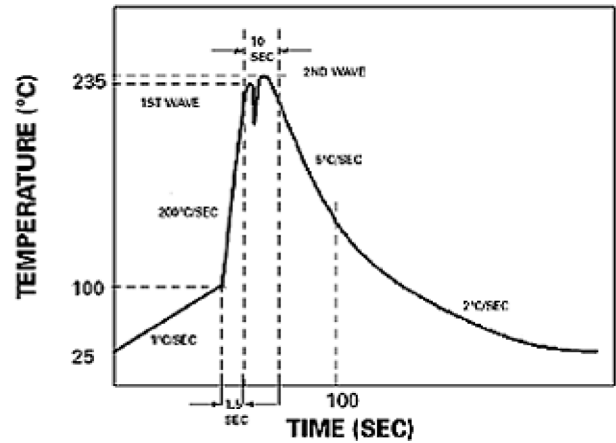
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Recommended Wave Solder Profiles

The Recommended solder Profile For Devices with Pb-free terminal plating where a Pb-free solder is used



The Recommended solder Profile For Devices with Pb-free terminal plating used with leaded solder, or for devices with leaded terminal plating used with leaded solder



Wave Profiles in Tabular Form

Profile Feature	Sn-Pb System	Pb-Free System
Average Ramp-Up Rate	~200°C/second	~200°C/second
Heating rate during preheat	Typical 1-2, Max 4°C/sec	Typical 1-2, Max 4°C/Sec
Final preheat Temperature	Within 125°C of Solder Temp	Within 125°C of Solder Temp
Peak Temperature	235°C	260°C max.
Time within +0 -5°C of actual Peak	10 seconds	10 seconds
Ramp-Down Rate	3°C/second max.	5°C/second max.

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Typical Characteristic Curves

Fig 1: Derating Curve Output Rectified Current

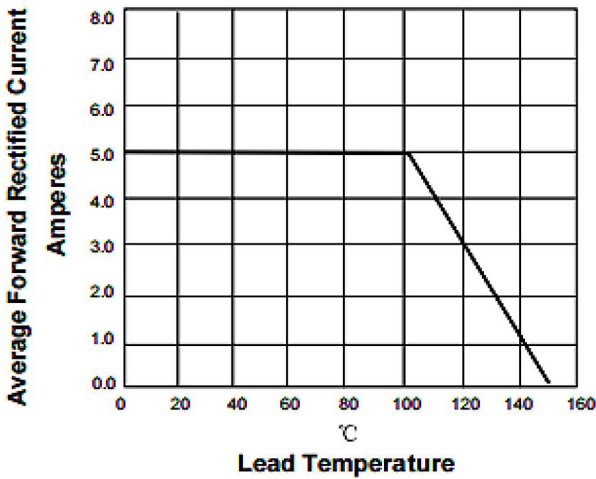


Fig 3: Maximum Non-Repetitive Peak Forward Surge Current Per leg

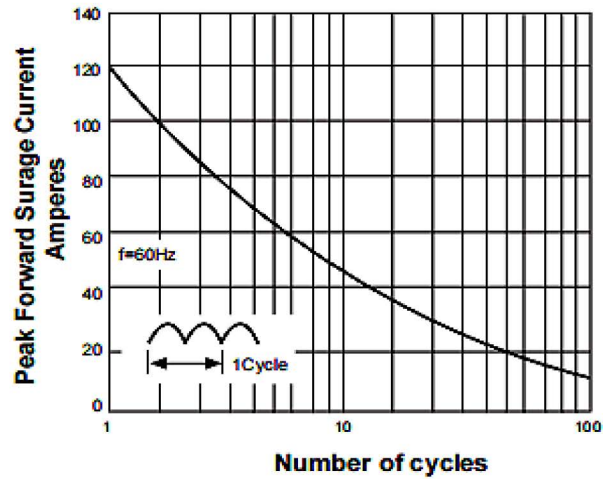


Fig 2: Typical Forward Voltage Characteristics

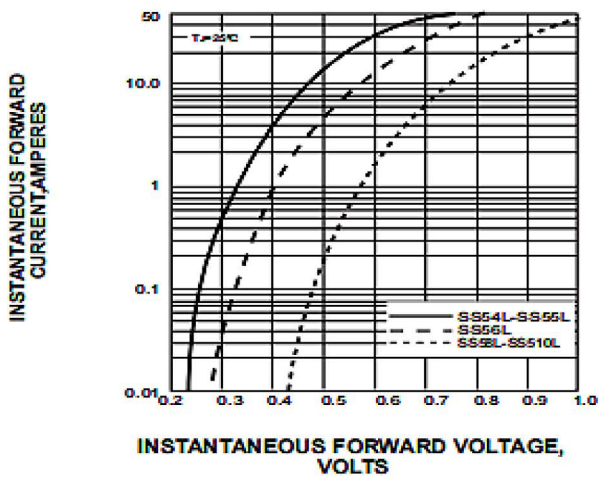
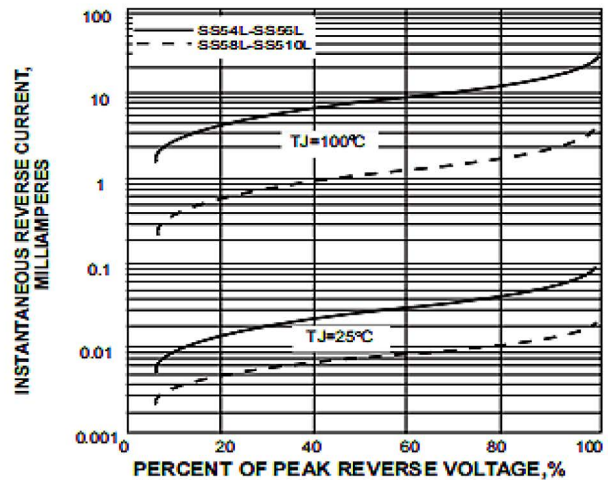


Fig 4: Typical Reverse Leakage Characteristics

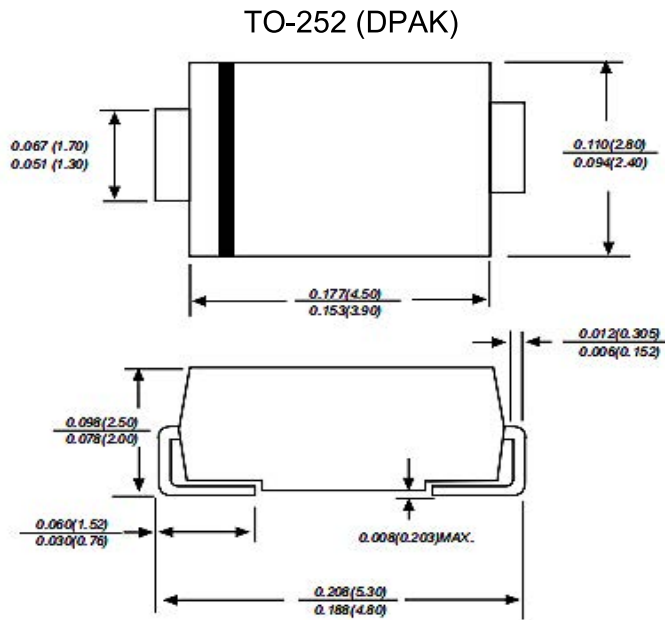


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Dimensions



Part Number Table

Description	Part Number
Schottky Barrier Rectifier, Surface Mount, 5.0Amp	SS545L

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