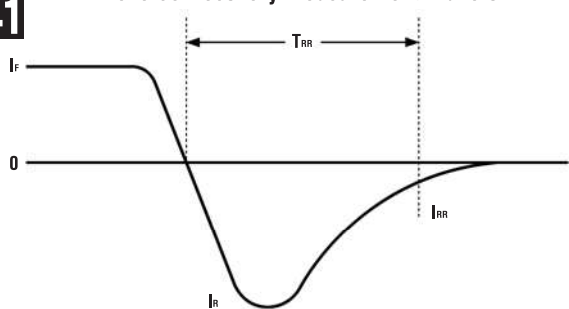




These curves apply to most diodes in this catalog.
For further information, please contact the factory.

FIGURE 141

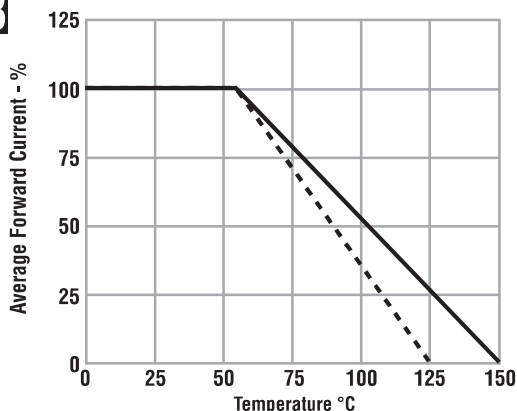
Reverse Recovery Measurement Waveform



Typical data capture points: $I_F = 0.5I_R$, $I_R, I_{RR} = 0.25I_R$
 I_R is typically the rated average forward current maximum ($I_{F(AVM)}$) of the D.U.T.

FIGURE 143

Forward Current Derating Curve



This applies to most diodes in our catalog that show average current rating at 55°C unless otherwise specified.

Max operating temperature is 150°C unless otherwise specified.

On Forward Pulse Current Durations Much Shorter Than 8.3mS

A general guideline relationship for expressing the forward pulse current withstand of a rectifier for a given pulse duration is the following:

$$(I_{pulse}^2) * (t_{pulse}) = (I_{FSM}^2) * (t_{surge}) \quad T_{ambient} = 25^{\circ}C$$

Where I_{FSM} is the rated forward surge current of the rectifier at 25°C and t_{surge} is 8.3msec.

Note that the above relationship is only to be used as a guideline. The ability of a rectifier to handle short term pulse currents is governed by several factors, so hands-on analysis by the circuit designer is essential to verify acceptable pulse withstand performance.

Package Applicability at Specified Max Voltage Rating V_{RRM}

It should be noted that the data provided in the component tables of this catalog are electrical data related to the internal function of the device. The voltage rating in the table may exceed the electrical rating of the package in some environments. It is the responsibility of the user to assure that proper engineering consideration is given to the applicability of the package (creepage distance) at the voltage rating and in the environment of intended use. Please contact us if you have questions or concerns about applicability.

FIGURE 142

Typical T_{RR} Setup for Higher Current Diodes

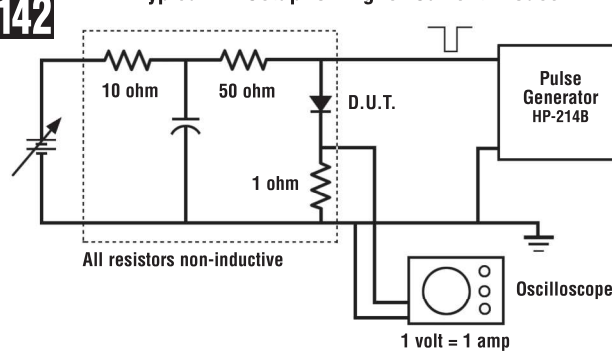


FIGURE 145

Typical T_{RR} Setup for Lower Current Diodes

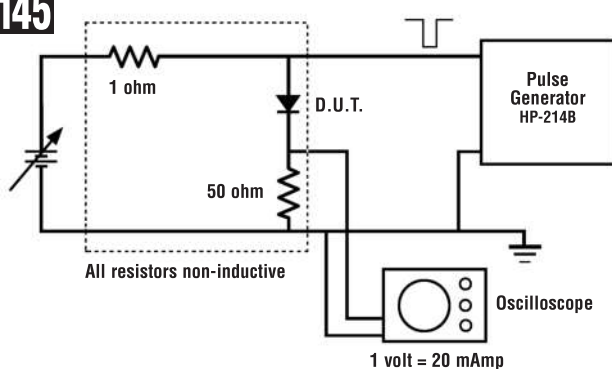
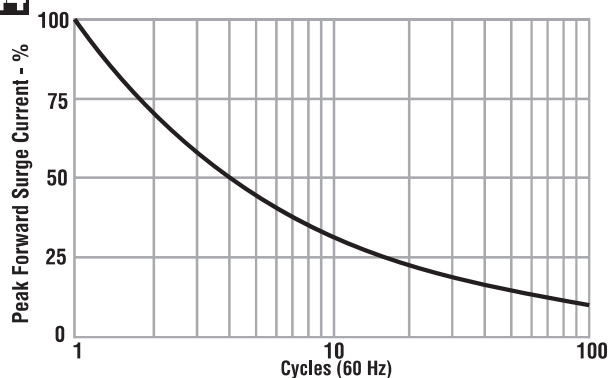


FIGURE 144

Repetitive Surge Current Derating Curve



This curve represents the percentage of published maximum surge rating as a function of surge repetition.

Cleanliness and high voltage

In applications where high voltage devices will be encapsulated, it is highly recommended that high voltage components or assemblies be washed in a clean, high pressure washer and then baked at 110°C for 2 hours. The cleaned, dried devices or assemblies should then be placed in heat sealed bags to prevent the accumulation of dirt or moisture prior to encapsulation.

Humidity and high voltage

Moisture can wreak havoc in high voltage systems. Therefore, it is highly recommended that devices that have been open to the environment be baked at 110°C for 2 hours prior to any application of high voltage.