

WILLAS

MSCD052 THRU MSCD054

VOLTAGE 20V ~ 40V

0.5 AMP Surface Mount Schottky Barrier Rectifiers



Pb Free Product

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low profile package
- Built-in strain relief
- Metal to silicon rectifier , majority carrier conduction
- Low power loss , High efficiency
- High current capability
- High surge capacity
- For using in low voltage high frequency switching power supply, inverters , free wheeling , and polarity protection applications

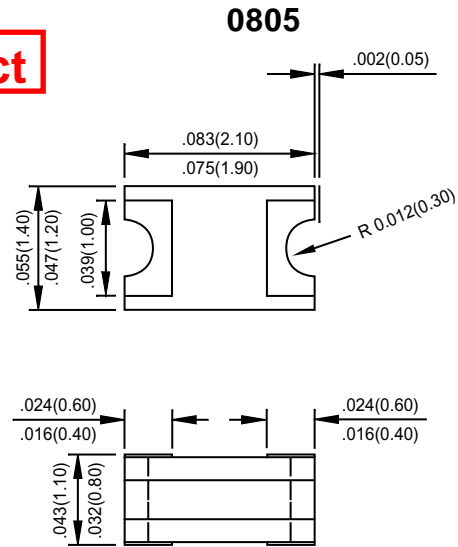
MECHANICAL DATA

Case : Packed with FRP substrate and epoxy underfilled

Terminals : Solder plated , solderable per MIL-STD-750, Method 2026

Polarity : Laser marking

Weight : 0.005 gram



*Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

TYPE NUMBER	SYMBOLS	MSCD052	MSCD053	MSCD054	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	V
Working Peak Reverse Voltage	V_{RMS}	20	30	40	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	V
Maximum Average Forward Rectified Current (See FIG. 1)	$I_{(AV)}$	0.5			A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	3			A
Maximum Instantaneous Forward Voltage at 1.0A (Note1)	V_F	0.44	0.46	0.48	V
Maximum DC Reverse Current (Note1) $T_a=25$ at Rated DC Blocking Voltage $T_a=100$	I_R	0.1			mA
		5			
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	88			/ W
	$R_{\theta JL}$	28			
Operating Temperature Range	T_J	-50 ~ +125			
Storage Temperature Range	T_{STG}	-65 ~ +150			

NOTES:

- Pulse test width $PW=300$ usec, 1% duty cycle.
- Mounted on P.C. board with 0.2×0.2 " (5.0×5.0 mm) copper pad areas.

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

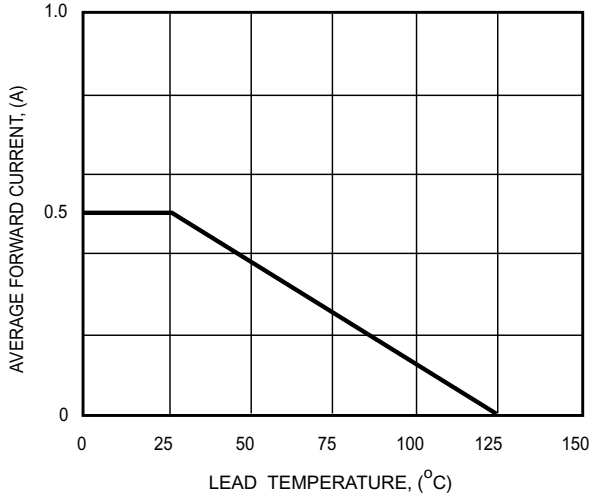


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

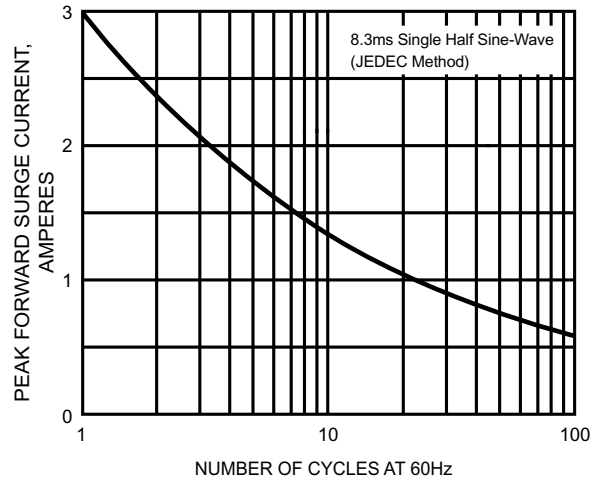


FIG. 3 - FORWARD CHARACTERISTICS

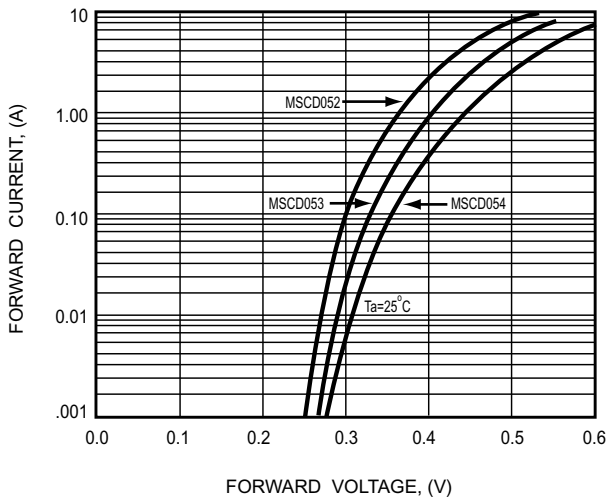


FIG. 4 - REVERSE CHARACTERISTICS

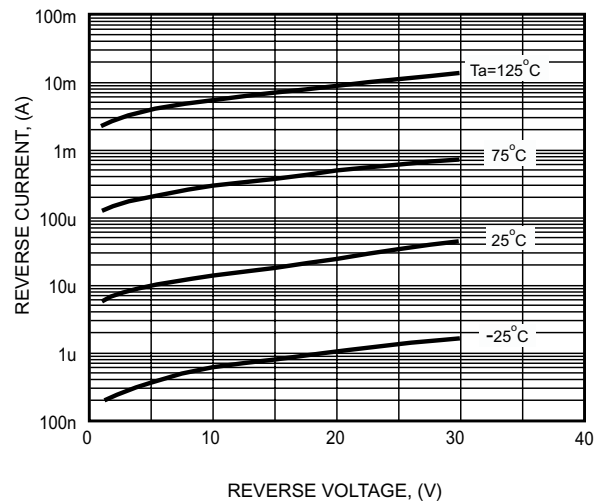


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

