

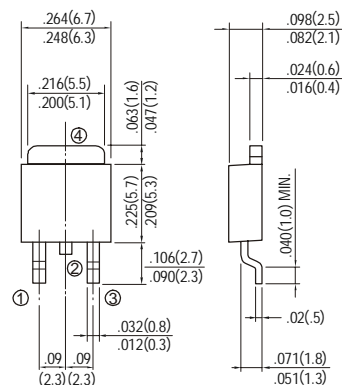
# SD1020YS Thru SD10100YS

## DPAK SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER VOLTAGE - 20 to 100 Volts CURRENT - 10.0 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Metal to silicon rectifier majority carrier conduction
- Low power loss, High efficiency
- High current capability, low  $V_F$
- High surge capacity
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 260°C/10 seconds at terminals

### DPAK / TO-252



### MECHANICAL DATA

Case: D PAK/TO-252 molded plastic

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

Polarity: Color band denotes cathode

Standard packaging: 16mm tape (EIA-481)

Weight: 0.015 ounce, 0.4 gram.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Resistive or inductive load.

	SYMBOLS	SD1020YS	SD1030YS	SD1040YS	SD1050YS	SD1060YS	SD1080YS	SD10100YS	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	50	60	80	100	Volts
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	56	70	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	80	100	Volts
Maximum Average Forward Rectified Current at $T_c=75^\circ\text{C}$	$I_{(AV)}$	10.0	10.0	10.0	10.0	10.0	10.0	10.0	Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	200	200	200	200	200	200	200	Amps
Maximum Instantaneous Forward Voltage at 10.0A (Note 1)	$V_F$	0.55	0.55	0.55	0.75	0.75	0.85	0.85	Volts
Maximum DC Reverse Current (Note 1) $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	$I_R$	0.2 20	0.2 20	0.2 20	0.2 20	0.2 20	0.2 20	0.2 20	mA
Maximum Thermal Resistance (Note 2)	$R_{\theta JC}$ $R_{\theta JA}$	6 80	6 80	6 80	6 80	6 80	6 80	6 80	$^\circ\text{C} / \text{W}$
Operating Junction Temperature Range	$T_J$	-55 to +125							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

#### NOTES:

1. Pulse Test with  $PW=300\mu\text{sec}$ , 2% Duty Cycle.
2. Mounted on P.C. Board with  $14\text{mm}^2$  (.013mm thick) copper pad areas.

## RATING AND CHARACTERISTIC CURVES

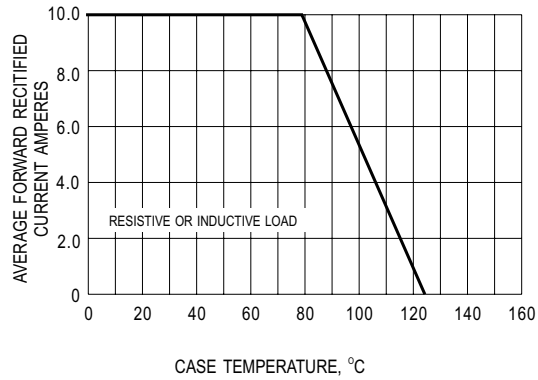


Fig.1- FORWARD CURRENT DERATING CURVE

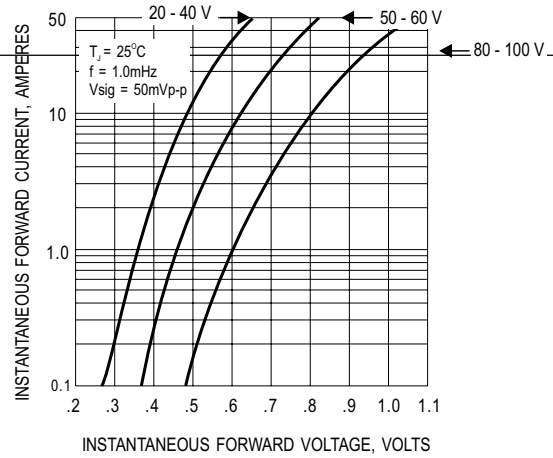


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

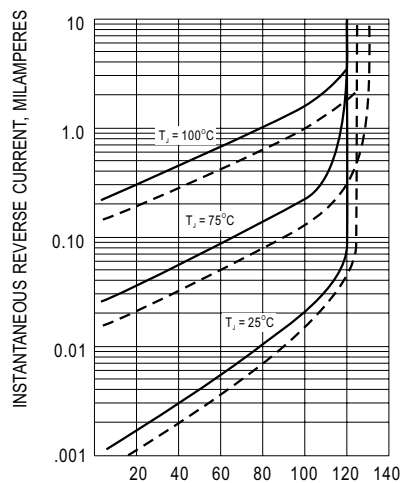


Fig.3- TYPICAL REVERSE CHARACTERISTIC

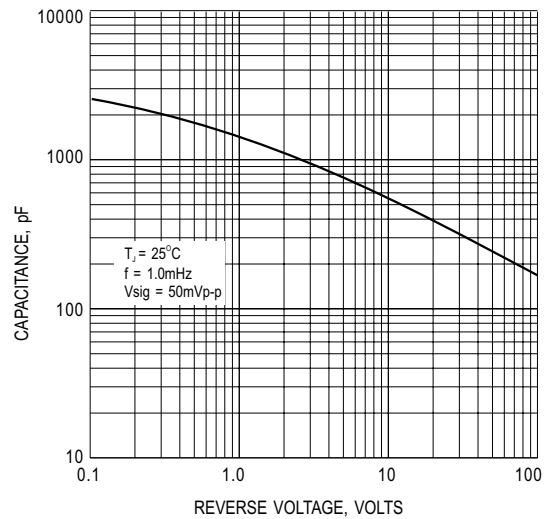


Fig.4- TYPICAL JUNCTION CAPACITANCE

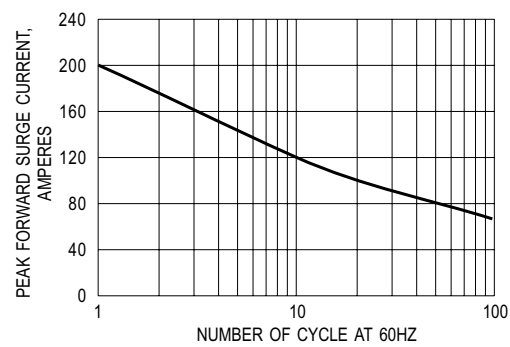


Fig.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT