SEMICONDUCTOR

K12WS THRU K1AWS

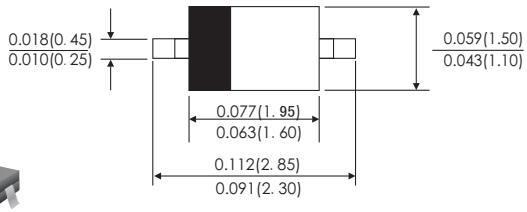
SCHOTTKY BARRIER RECTIFIER

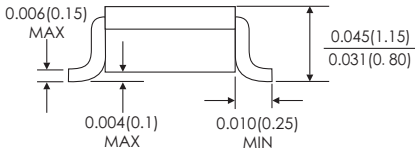
Reverse Voltage - 20 to 100 Volts
Forward Current - 1.0Ampere

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,Low forward voltage drop
- High surge capability
- For use in low voltage ,high frequency inverters, free wheeling ,and polarity protection applications
- High temperature soldering guaranteed:260 °C/10 seconds at terminals

SOD-323





Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: SOD-323L molded plastic body
- Lead Finish: 100% Matte Sn (Tin)
- Polarity: color band denotes cathode end

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Ratings at 25°C ambient temperature unless otherwise specified ,Single phase ,half wave ,resistive or inductive load. For capacitive load,derate by 20%.)

		Symbols	K12WS	K13WS	K14WS	K15WS	K16WS	K18WS	K1AWS	Volts
Maximum repetitive peak reverse voltage		V_{RRM}	20	30	40	50	60	80	100	Volts
Maximum RMS voltage		V_{RMS}	14	21	28	35	42	56	71	Volts
Maximum DC blocking voltage		V_{DC}	20	30	40	50	60	80	100	Volts
Maximum average forward rectified current (See Fig. 1)		$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I_{FSM}	25							Amps
Maximum instantaneous forward voltage at1.0 A(note 1)		V_F	0.50	0.55		0.70		0.85		Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1)	T_A=25°C	I_R	100							μA
	T_A=100°C		5							mA
Typical thermal resistance (Note 2)		$R_{\theta JL}$	35							°C/W
Operating junction temperature range		T_J	-55 to+125							°C
Storage temperature range		T_{STG}	-55 to+125							°C

Notes: 1.Pulse test: 300μs pulse width,1% duty cycle

2. P.C.B. mounted with 0.2 X 0.2"(5.0 X 5.0mm)copper pad areas

RATINGS AND CHARACTERISTIC CURVES

FIG.1-FORWARD CURRENT DERATING CURVE

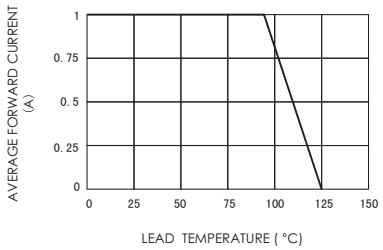


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

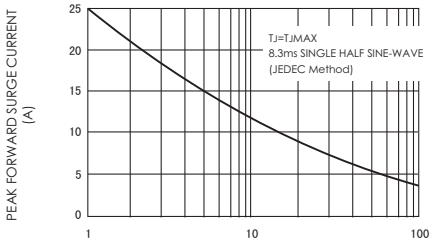


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

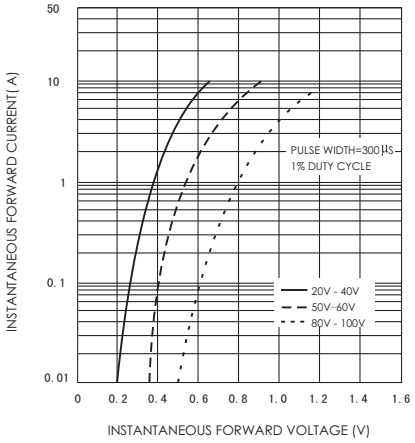


FIG.4-TYPICAL REVERSE CHARACTERISTICS

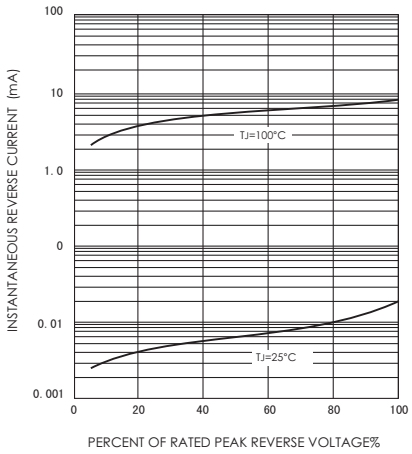


FIG.5-TYPICAL JUNCTION CAPACITANCE