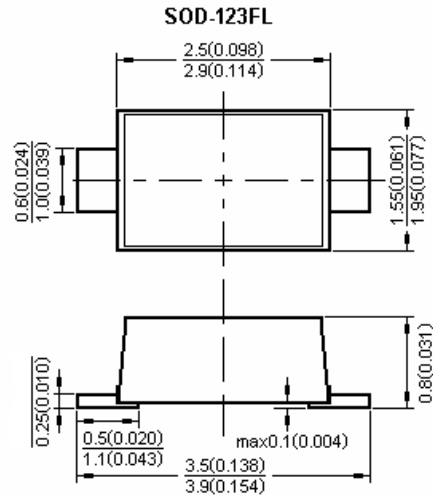


# SCHOTTKY BARRIER RECTIFIER

## K12 THRU K1D 20 to 200 V 1.0 A

### 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:250 °C/10 seconds at terminals,0.375"(9.5mm)lead length,5lbs.(2.3kg)tension



### Mechanical Data

- Case: SOD-123FL molded plastic body
- Lead Finish: 100% Matte Sn (Tin)
- Polarity: color band denotes cathode end
- Mounting Position: Any
- Weight: 11.7 mg(approximately)

### Maximum Ratings and Electrical Characteristics

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

	Symbols	K12	K13	K14	K15	K16	K18	K1A	K1B	K1D	Volts	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	150	200	Volts	
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	57	71	105	140	Volts	
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	150	200	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)	$I_{FSM}$	40.0									Amps	
Maximum instantaneous forward voltage at 1.0 A(note 1)	$V_F$	0.55			0.75		0.85		0.90		0.95	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1)	$T_A=25\text{ C}$	0.2									mA	
	$T_A=100\text{ C}$	10.0										
Typical thermal resistance (Note 2)	$R_{\theta JA}$ $R_{\theta JL}$	88.0 28.0									C/W	
Operating junction temperature range	$T_J$	-65 to+150									C	
Storage temperature range	$T_{STG}$	-65 to+150									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

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### RATINGS AND CHARACTERISTIC CURVES (K12 THRU K1D)

FIG.1-FORWARD CURRENT DERATING CURVE

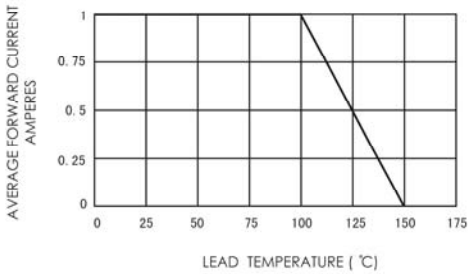


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

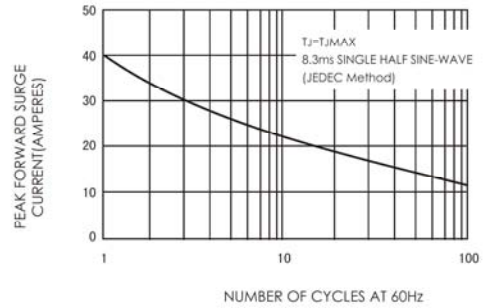


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

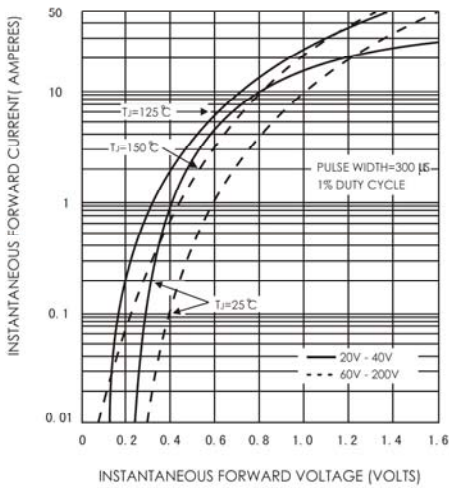


FIG.4-TYPICAL REVERSE CHARACTERISTICS

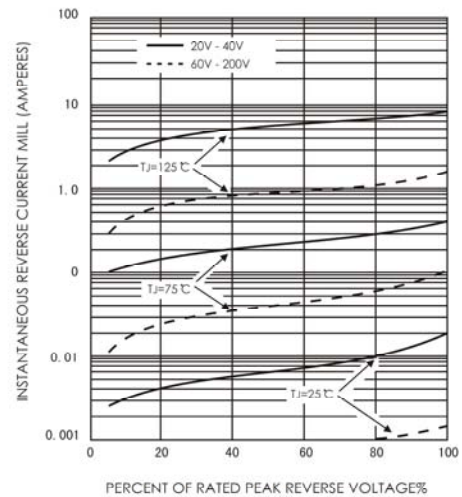


FIG.5-TYPICAL JUNCTION CAPACITANCE

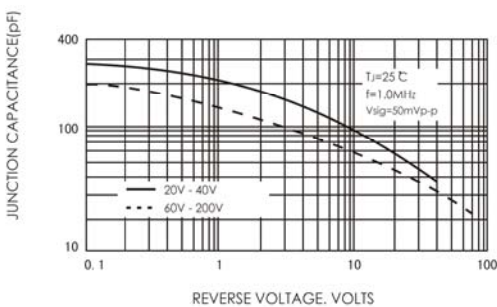


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

