

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER DSK12 THRU DSK120

Features

1. The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
2. For surface mounted applications
3. Metal silicon junction, majority carrier conduction
4. Low power loss, high efficiency
5. Built-in strain relief, ideal for automated placement
6. High forward surge current capability
7. High temperature soldering guaranteed:
250 °C/10 seconds at terminals

Mechanical Data

Case : JEDEC SOD-123FL molded plastic body

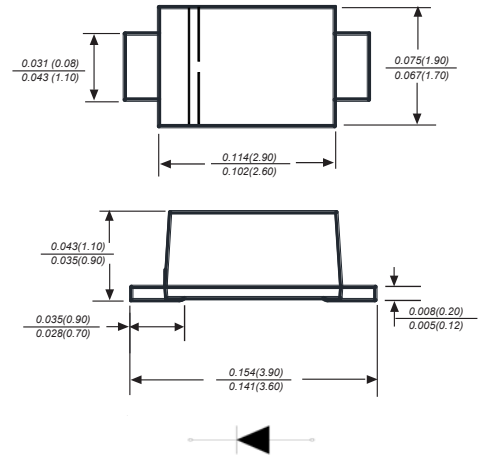
Terminals : Solderable per MIL-STD-750, Method 2026

Polarity : Color band denotes cathode end Mounting

Position : Any

Weight : 0.0007 ounce, 0.02 grams

SOD-123FL



Dimensions in inches and (millimeters)

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 current derate by 20%.

Parameter	SYMBOLS	DSK12	DSK14	DSK15	DSK16	DSK18	DSK110	DSK115	DSK120	UNITS	
		K12	K14	K15	K16	K18	K110	K115	K120		
Maximum repetitive peak reverse voltage	V_{RRM}	20	40	50	60	80	100	150	200	V	
Maximum RMS voltage	V_{RMS}	14	28	35	42	56	70	105	140	V	
Maximum DC blocking voltage	V_{DC}	20	40	50	60	80	100	150	200	V	
Maximum average forward rectified current at TL (see fig. 1)	$I_{(AV)}$	1.0								A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	25								A	
Maximum instantaneous forward voltage at 1.0A	V_F	0.55		0.70			0.85		0.95	V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	I_R	0.5					0.1				mA
		10.0			5.0		2.0				
Typical junction capacitance (NOTE 1)	C_J	110			80					pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	100.0								°C/W	
Operating junction temperature range	T_J	-55 to +125								°C	
Storage temperature range	T_{STG}	-55 to +150								°C	

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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Typical Characteristics

Fig.1 Forward Current Derating Curve

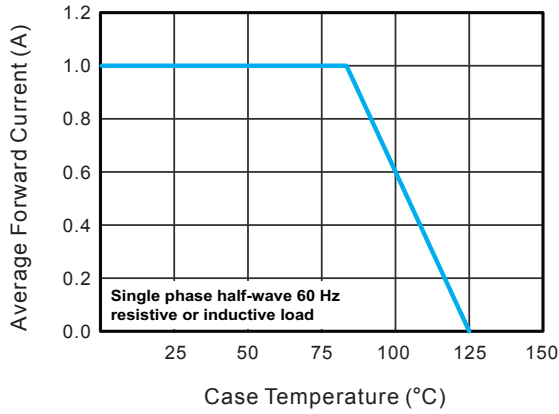


Fig.2 Typical Reverse Characteristics

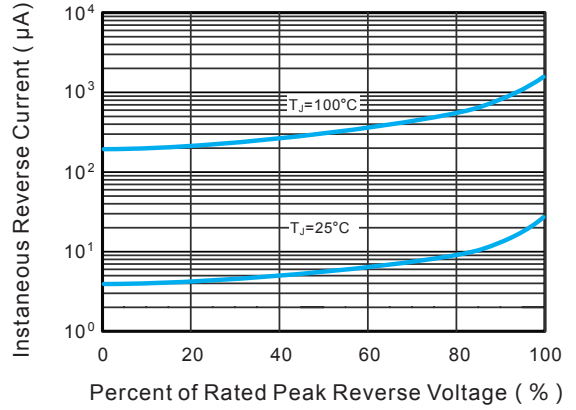


Fig.3 Typical Forward Characteristic

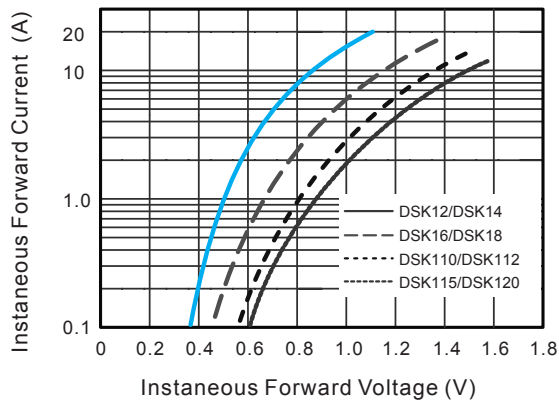


Fig.4 Typical Junction Capacitance

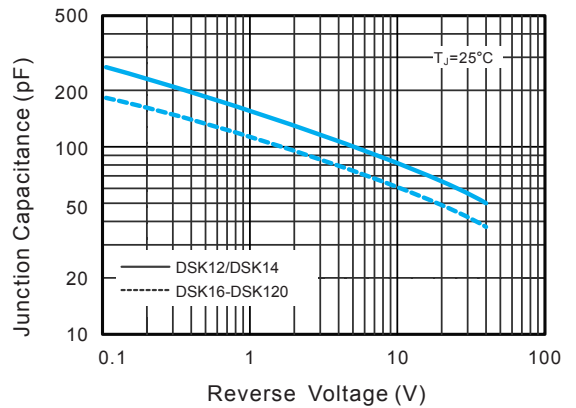


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

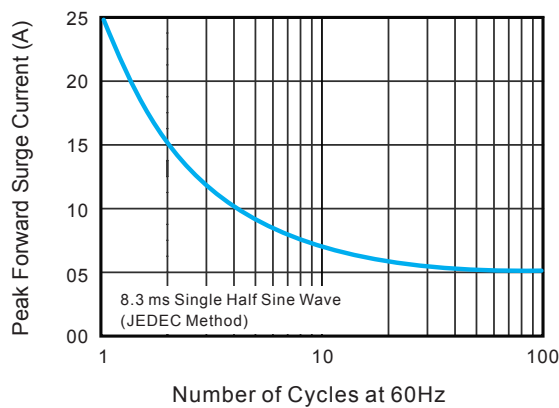
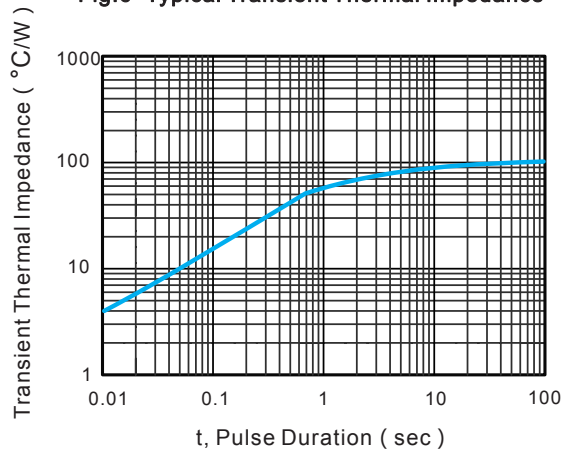
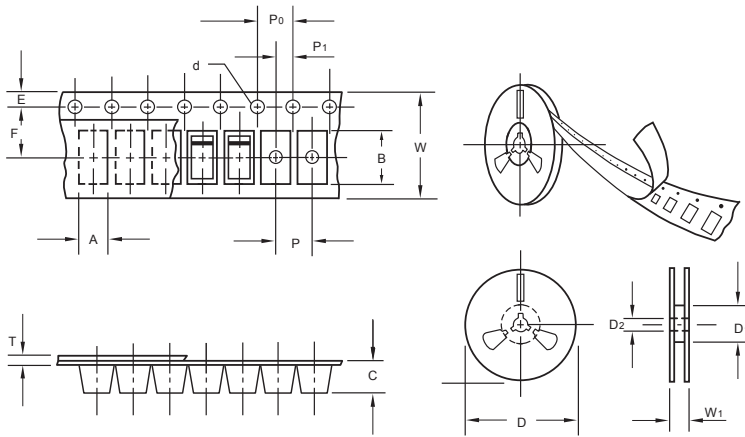


Fig.6- Typical Transient Thermal Impedance



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Packing information



unit:mm

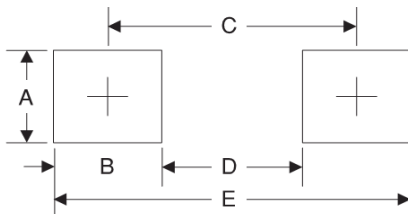
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W ₁	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123FL	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2	0.079
E	4.4	0.173