



2.0Amp. Surface Mount Schottky Barrier Diodes

SK2XSA Series

Features

- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- High surge capability
- High temperature soldering: 250°C/10 seconds at terminals
- Exceeds environmental standards of MIL-S-19500/228

Mechanical Data

- Case: SMA/DO-214AC molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Indicated by cathode band.
- Packaging: 12mm tape per EIA STD RS-481.
- Weight: 0.064 gram, 0.002 ounce

Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Type					Units
		SK22	SK24	SK26	SK28	SK2B	
Repetitive peak reverse voltage	V _{RRM}	20	40	60	80	100	V
Maximum RMS voltage	V _{RMS}	14	28	42	56	70	V
Maximum DC blocking voltage	V _R	20	40	60	80	100	V
Maximum instantaneous forward voltage, I _F =2A (Note 1)	V _F	0.5	0.5	0.7	0.85	0.85	V
Average forward rectified current	I _O	2					A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I _{FSM}	80					A
Maximum DC reverse current V _R =V _{RRM} , T _A =25°C (Note 1) V _R =V _{RRM} , T _A =125°C (Note 1)	I _R	0.5 20					mA mA
Maximum thermal resistance, Junction to ambient (Note 2)	R _{θJA}	80					°C/W
Maximum thermal resistance, Junction to case	R _{θJC}	32					
Power dissipation	T _A =25°C (Note 2)	P _D					W
	T _C =25°C						
Diode junction capacitance @ f=1MHz and applied 4V reverse voltage	C _J	110 (typ)					pF
Storage temperature	T _{stg}	-55 ~ +150					°C
Operating temperature	T _J	-55 ~ +125					°C

Notes : 1. Pulse test, pulse width=300 μ sec, 2% duty cycle

2. Mounted on PCB with 14mm² (0.013mm thickness) copper pad area.

Characteristic Curves

FIG.1 - FORWARD CURRENT DERATING CURVE

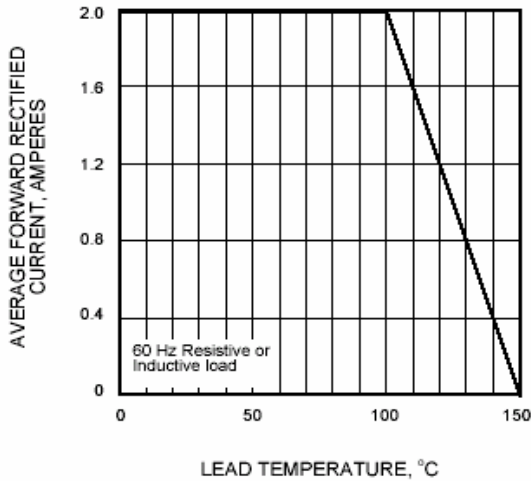


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

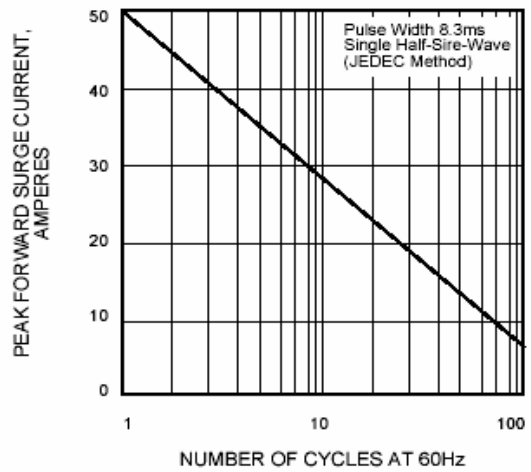


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

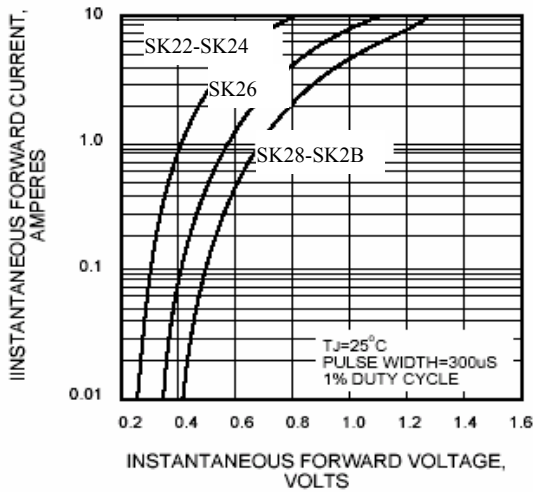


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

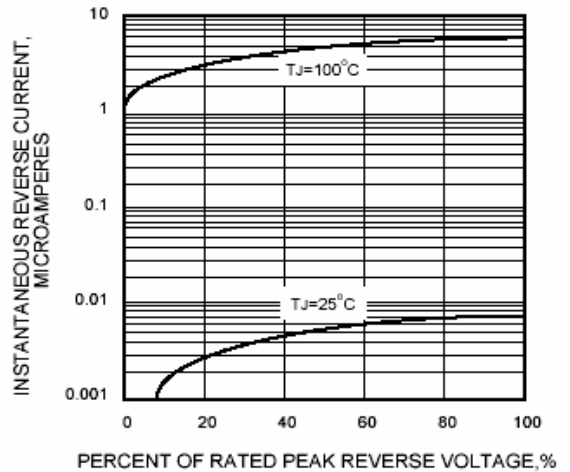
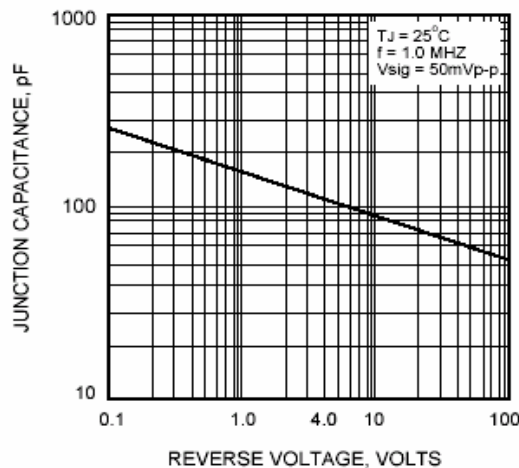
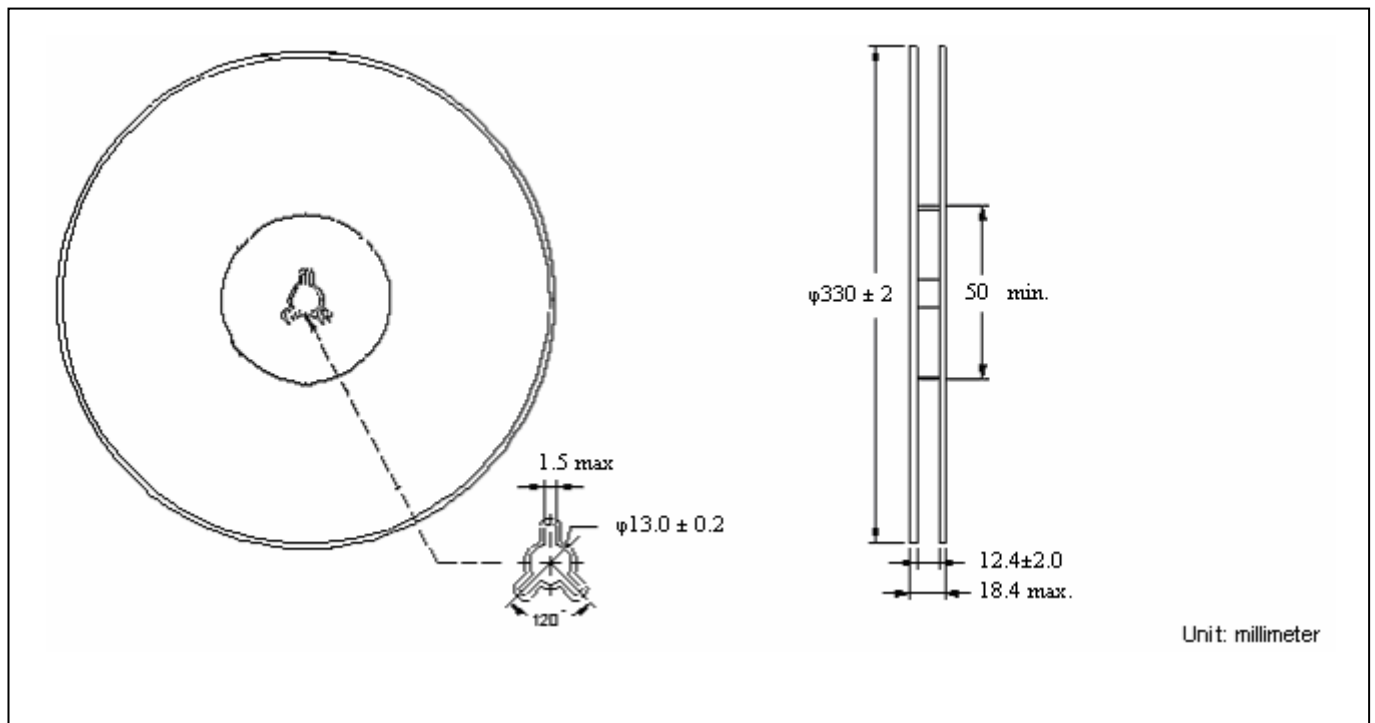


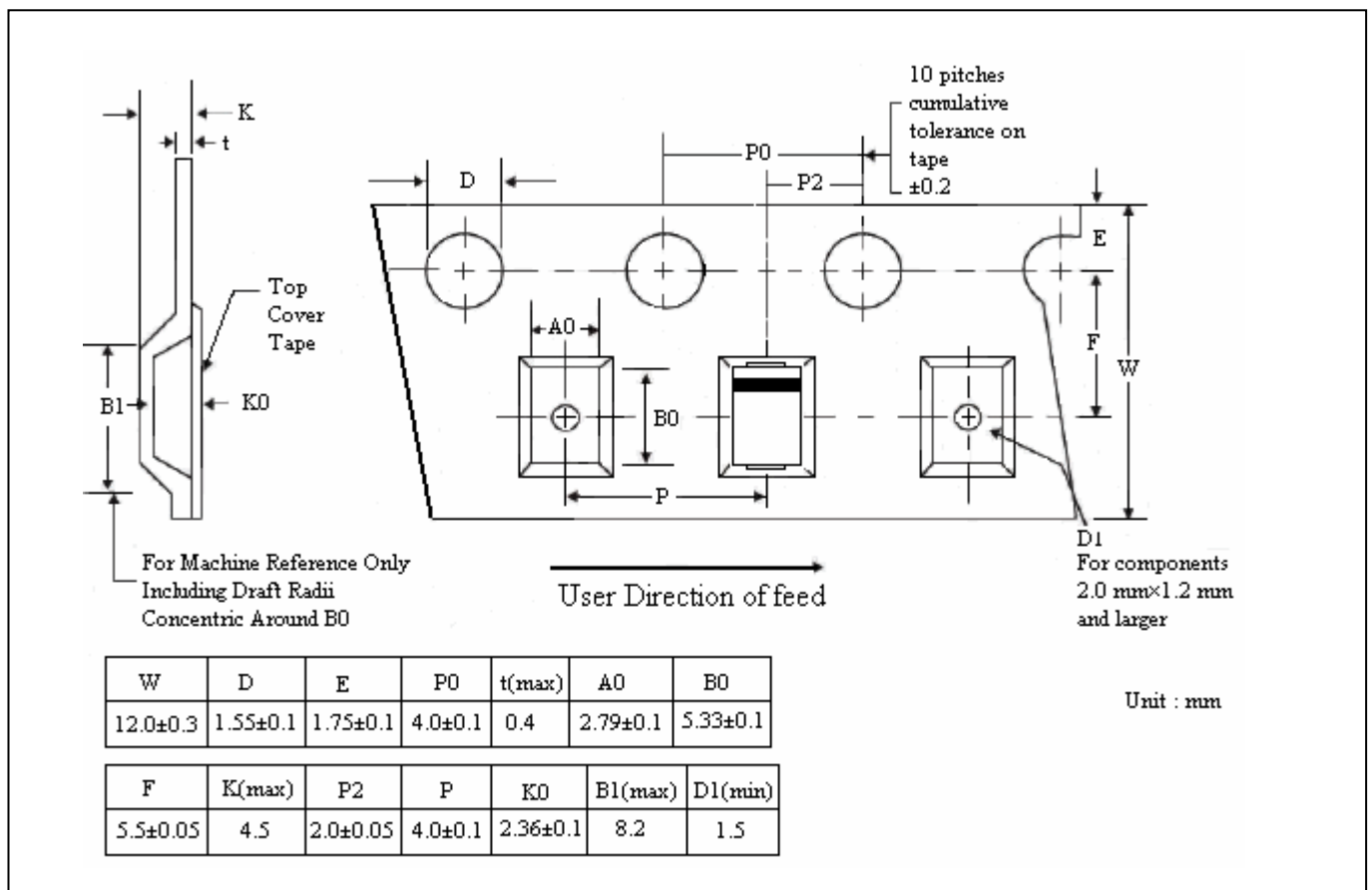
FIG.5 - TYPICAL JUNCTION CAPACITANCE



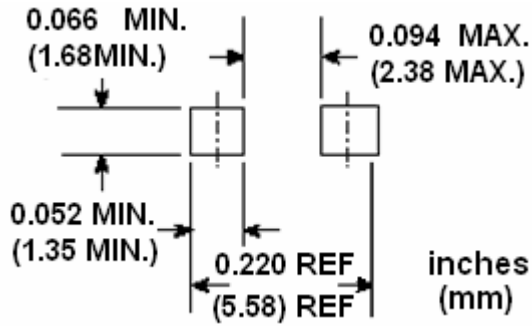
Reel Dimension



Carrier Tape Dimension



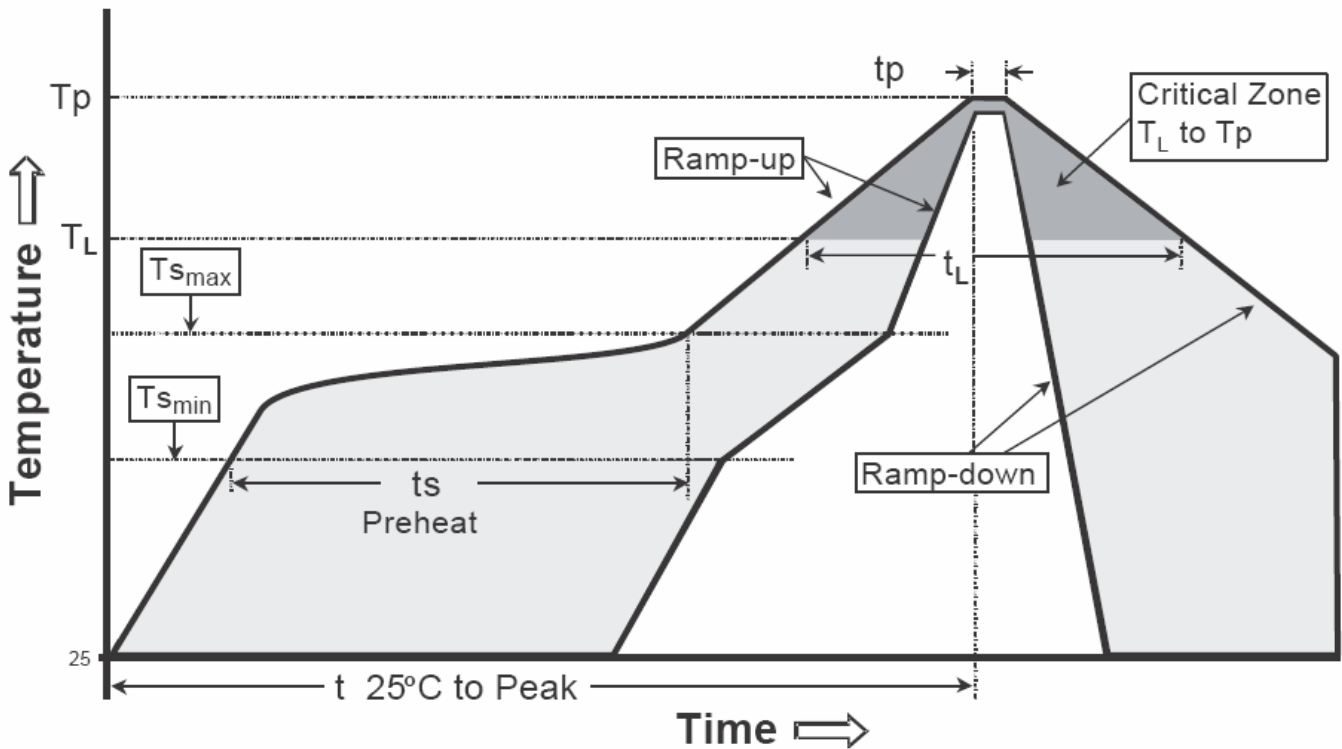
Recommended soldering footprint



Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	265 +0/-5 °C	5 +1/-1 seconds

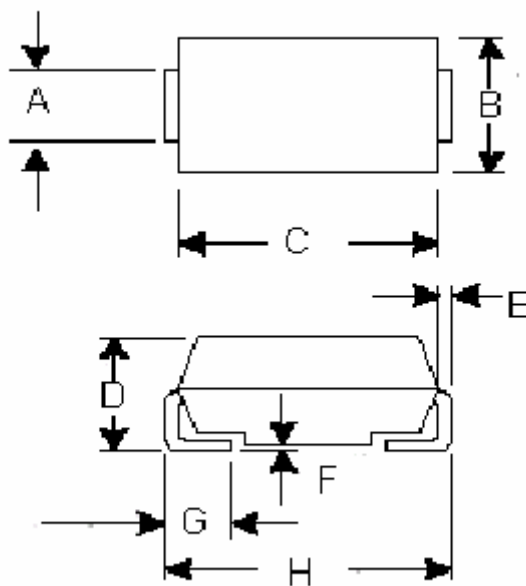
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T _{s min})	100°C	150°C
-Temperature Max(T _{s max})	150°C	200°C
-Time(t _{s min} to t _{s max})	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T _L)	183°C	217°C
- Time (t _L)	60-150 seconds	60-150 seconds
Peak Temperature(T _p)	240 +0/-5 °C	265 +0/-5 °C
Time within 5°C of actual peak temperature(t _p)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

SMA/DO-214AC Dimension



Marking :			
Device	SK22SA	SK24SA	SK26SA
Code	SK22	SK24	SK26
Device	SK28SA	SK2BSA	
Code	SK28	SK2B	

SMA/DO-214AC Plastic
 Surface Mounted Package
 CYStek Package Code : SA

*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.055	0.062	1.40	1.60	E	0.006	0.012	0.152	0.305
B	0.098	0.114	2.50	2.90	F	0.002	0.008	0.051	0.203
C	0.157	0.181	4.00	4.60	G	0.030	0.060	0.76	1.52
D	0.078	0.096	2.00	2.44	H	0.188	0.208	4.80	5.28

Notes : 1. Controlling dimension : millimeters.
 2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
 3. If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material :

- Lead : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.

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