



2.0Amp. Surface Mount Schottky Barrier Diodes SK2XSA Series

Features

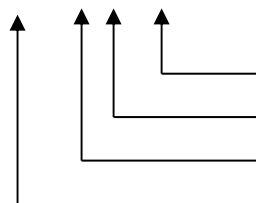
- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- High surge capability
- High temperature soldering: 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

Ordering Information

| Device | Package | Shipping | Marking |
|---------------|--|------------------------|---------|
| SK24SA-0-T4-G | SMA (Pb-free lead plating and halogen-free package) | 7500 pcs / Tape & Reel | SK24 |
| SK26SA-0-T4-G | | | SK26 |
| SK28SA-0-T4-G | | | SK28 |
| SK2BSA-0-T4-G | | | SK2B |
| SK2CSA-0-T4-G | | | SK2C |
| SK2DSA-0-T4-G | | | SK2D |



Environment friendly grade : S for RoHS compliant products, G for RoHS compliant and green compound products
Packing spec, T4 : 7500 pcs / tape & reel, 13" reel
Product rank, zero for no rank products
Product name

Maximum Ratings and Electrical Characteristics

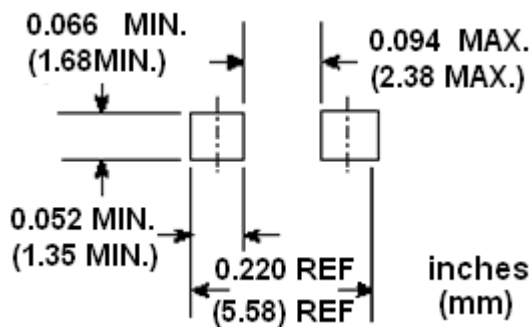
(Rating at 25°C ambient temperature unless otherwise specified.)

| Parameter | Symbol | Type | | | | | | Units |
|---|---------------------------|------------|------|------|------------|------|------|----------|
| | | SK24 | SK26 | SK28 | SK2B | SK2C | SK2D | |
| Repetitive peak reverse voltage | V_{RRM} | 40 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 28 | 42 | 56 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | V_R | 40 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum instantaneous forward voltage, $I_F=2A$ (Note 1) | V_F | 0.7 | 0.7 | 0.85 | 0.85 | 0.9 | 0.9 | 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} | 50 | | | | | | A |
| Maximum DC reverse current $V_R=V_{RRM}, T_A=25^\circ C$ (Note 1) $V_R=V_{RRM}, T_A=100^\circ C$ (Note 1) | I_R | 0.5 50 | | | | | | mA mA |
| Maximum thermal resistance, Junction to ambient (Note 2) | $R_{\theta JA}$ | 80 | | | | | | °C/W |
| Maximum thermal resistance, Junction to case | $R_{\theta JC}$ | 32 | | | | | | |
| Power dissipation | $T_A=25^\circ C$ (Note 2) | 1.3 | | | | | | W |
| | $T_C=25^\circ C$ | 3.1 | | | | | | |
| Diode junction capacitance @ $f=1MHz$ and applied 4V reverse voltage | C_J | 110 (typ) | | | | | | pF |
| Storage temperature | T_{stg} | -65 ~ +150 | | | | | | °C |
| Operating temperature | T_J | -65 ~ +150 | | | -65 ~ +175 | | | °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.

Recommended soldering footprint



Typical Characteristics

FIG. 1-FORWARD CURRENT DERATING CURVE

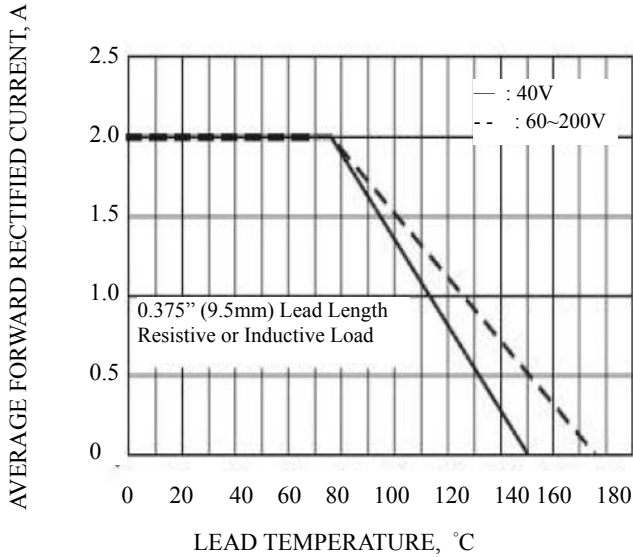


FIG.2-MAXIMUM NON-REPETITIVE SURGE CURRENT

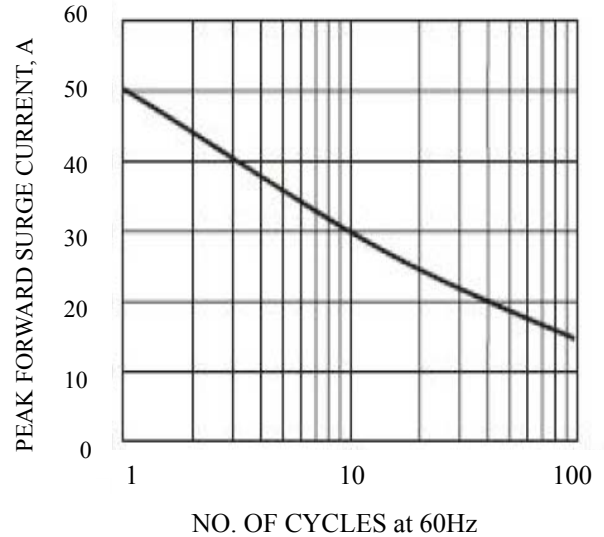


FIG.3- TYPICAL REVERSE CHARACTERISTICS

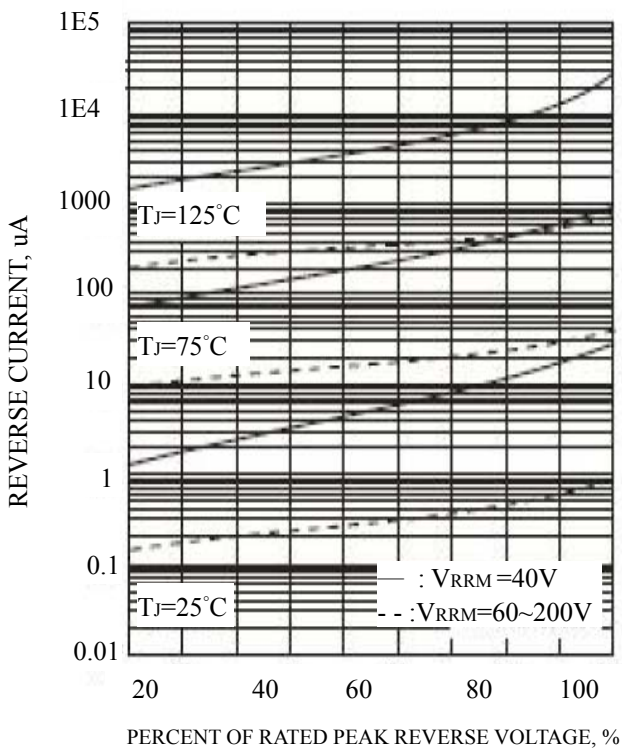
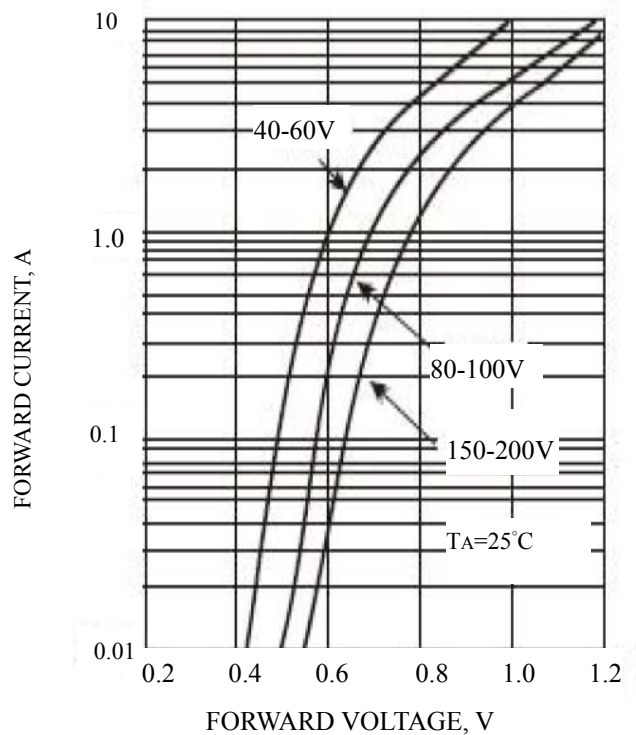
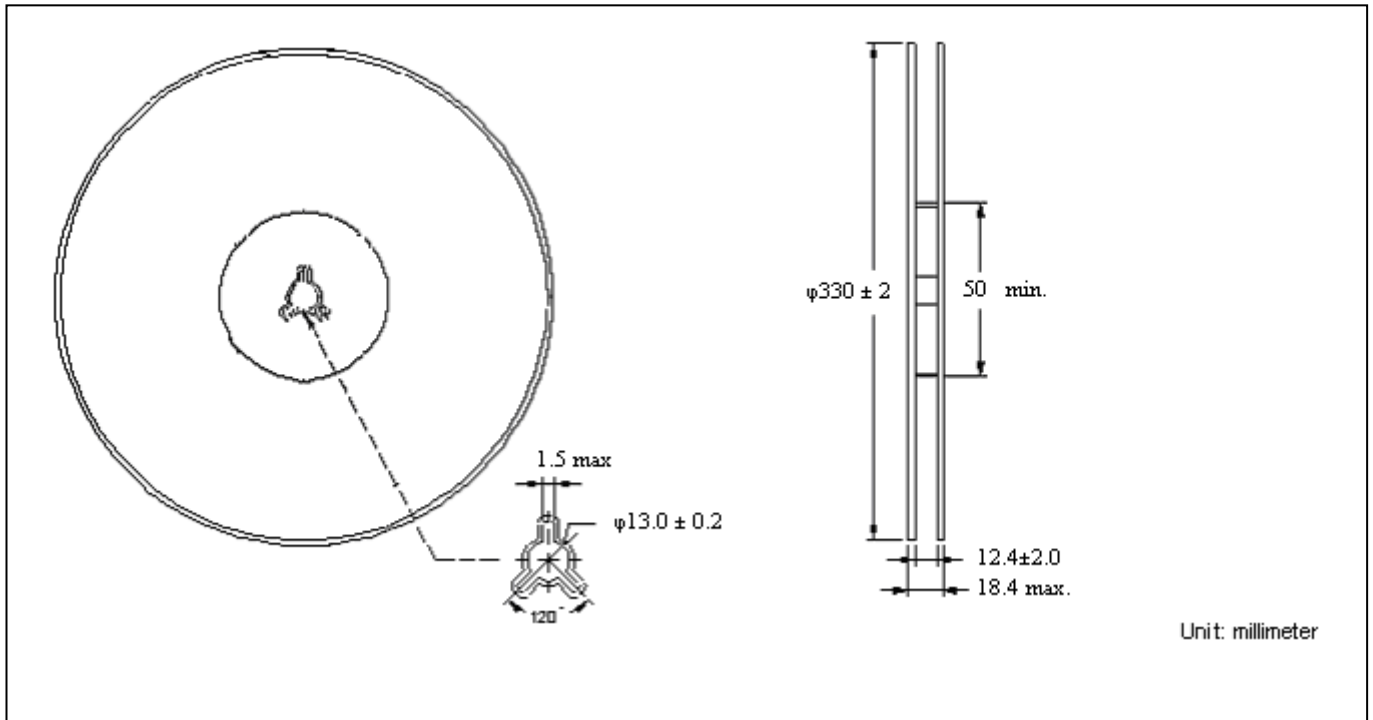


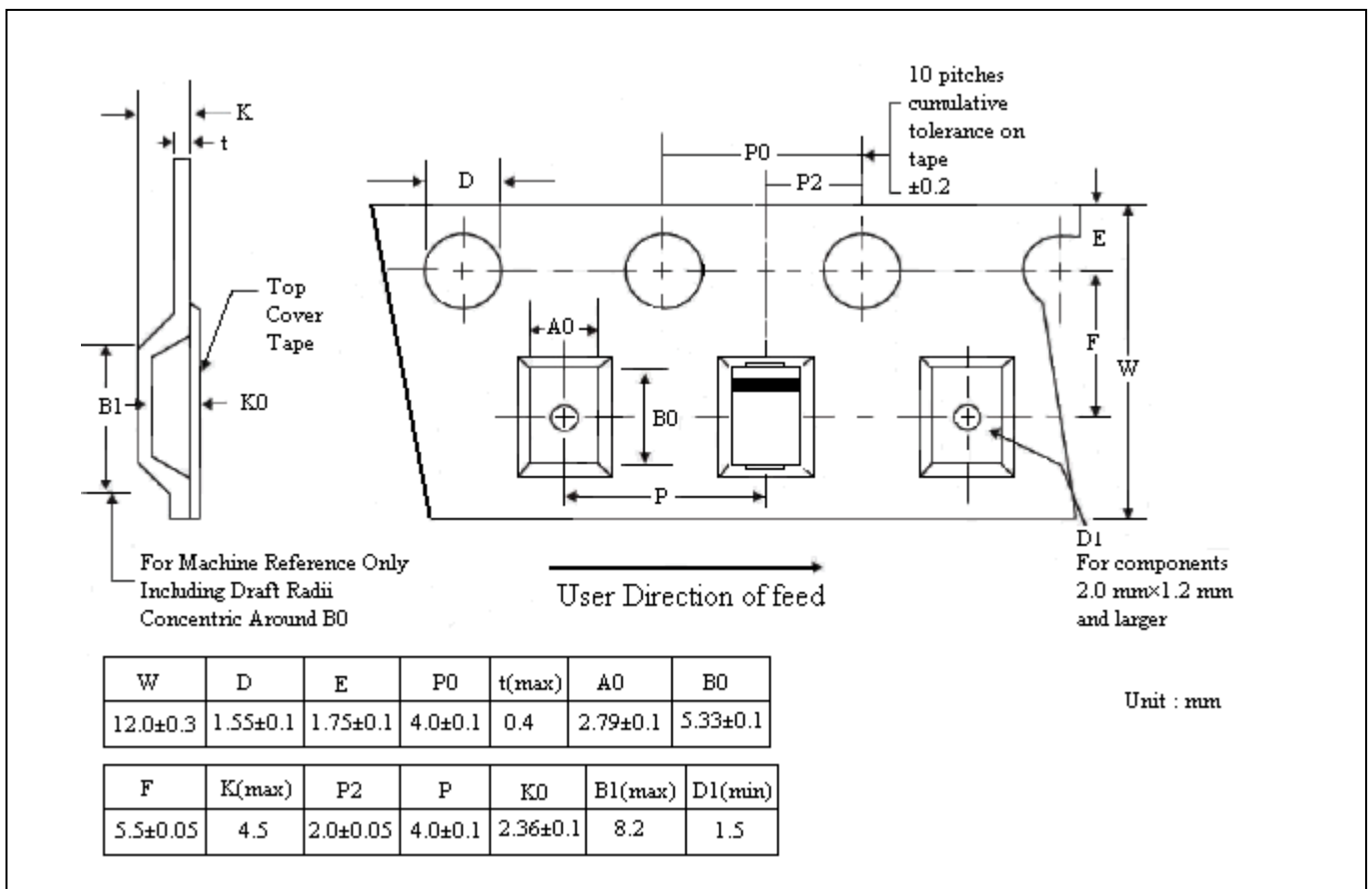
FIG. 4- TYPICAL FORWARD CHARACTERISTICS



Reel Dimension

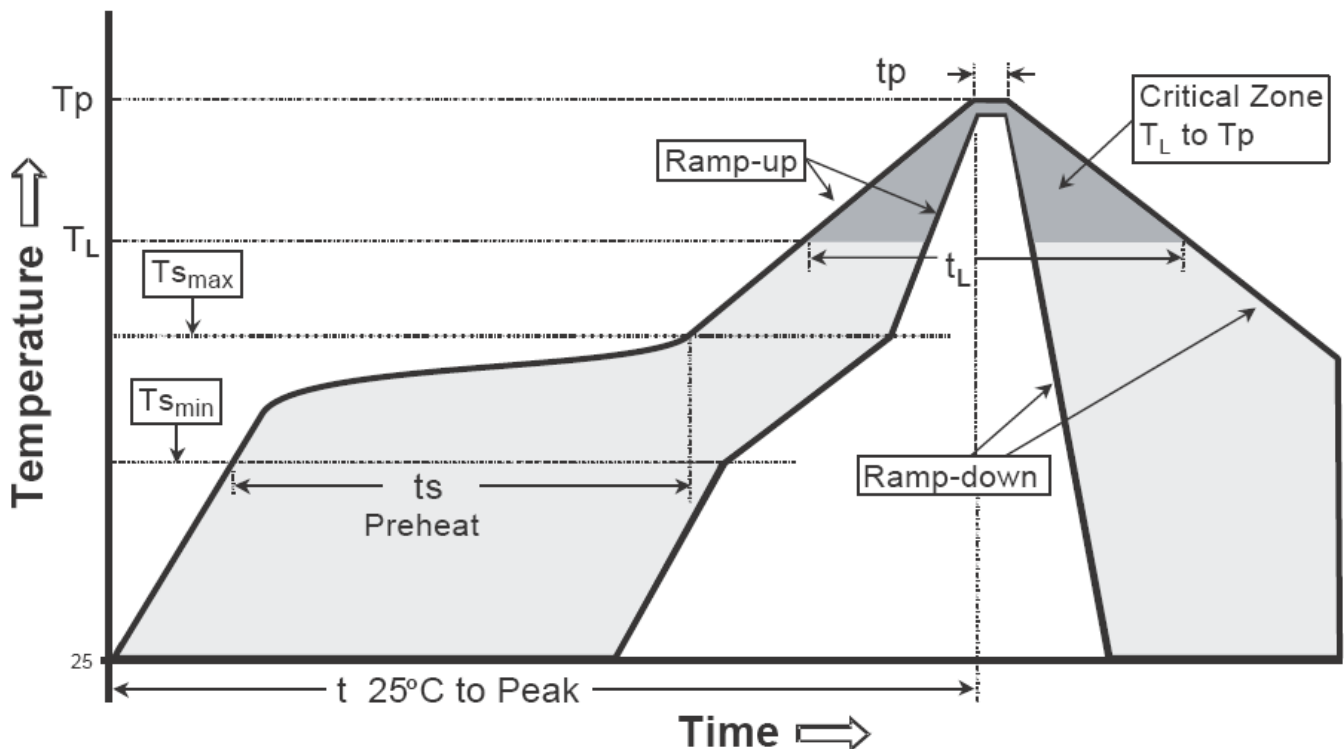


Carrier Tape Dimension



Recommended wave soldering condition

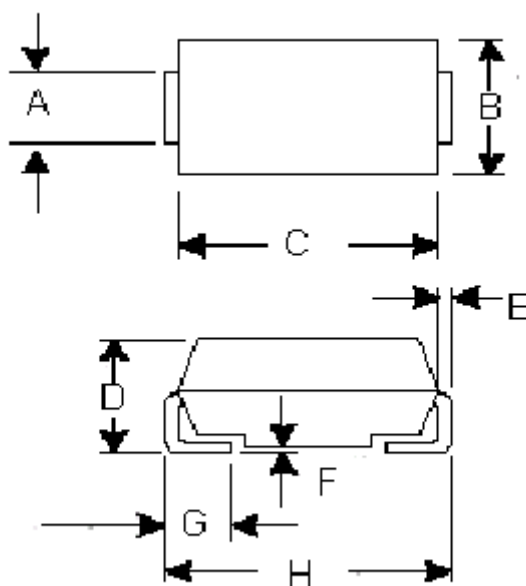
| | | |
|-----------------|------------------|-----------------|
| Product | Peak Temperature | Soldering Time |
| Pb-free devices | 265 +0/-5 °C | 5 +1/-1 seconds |

Recommended temperature profile for IR reflow


| Profile feature | Sn-Pb eutectic Assembly | Pb-free Assembly |
|--|-------------------------|------------------|
| Average ramp-up rate (Tsmax to Tp) | 3°C/second max. | 3°C/second max. |
| Preheat | | |
| -Temperature Min(Ts min) | 100°C | 150°C |
| -Temperature Max(Ts max) | 150°C | 200°C |
| -Time(ts min to ts max) | 60-120 seconds | 60-180 seconds |
| Time maintained above: | | |
| -Temperature (TL) | 183°C | 217°C |
| - Time (tL) | 60-150 seconds | 60-150 seconds |
| Peak Temperature(TP) | 240 +0/-5 °C | 265 +0/-5 °C |
| Time within 5°C of actual peak temperature(tp) | 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 | SK24SA | SK26SA | SK28SA |
| Code | SK24 | SK26 | SK28 |

| | | | |
|--------|--------|--------|--------|
| Device | SK2BSA | SK2CSA | SK2CSA |
| Code | SK2B | SK2C | SK2C |

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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