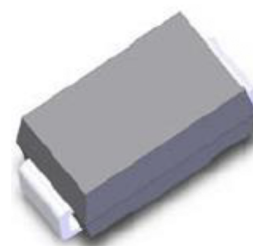


Features

- Schottky barrier diodes
- Low forward voltage drop
- High Junction Temperature
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0

- Add suffix "E" for Halogen Free
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified


RoHS
COMPLIANT


DO-214AC (SMA)

Typical Applications

For use in low voltage,high frequency inverters,free wheeling, and polarity,protection application

Maximum Ratings (TA = 25 °C unless otherwise noted)

Parameter	Symbol	SK52A SK52AE	SK53A SK53AE	SK54A SK54AE	SK55A SK55AE	SK56A SK56AE	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V
Maximum average forward rectified current	$I_{F(AV)}$	5.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	120					A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150					°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Parameter	Test Conditions	Symbol	SK52A SK52AE	SK53A SK53AE	SK54A SK54AE	SK55A SK55AE	SK56A SK56AE	Unit
Maximum instantaneous forward voltage	I _F =5A, T _A =25°C	V _F	0.55			0.67		V
Maximum DC reverse current at rated DC blocking voltage	T _A =25°C	I _R	0.20			0.15		mA
	T _A =125°C		15					
Typical junction capacitance	4.0 V, 1 MHz	C _J	96					pF

Thermal Characteristics

Parameter	Symbol	SK52A SK52AE	SK53A SK53AE	SK54A SK54AE	SK55A SK55AE	SK56A SK56AE	Unit
Typical thermal resistance ⁽¹⁾	R _{θJA}	75					°C/W
	R _{θJC}	38					
	R _{θJl}	15					

Note1:Thermal resistance from junction to lead,mounted on PCB with 5.0×5.0mm copper pads

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

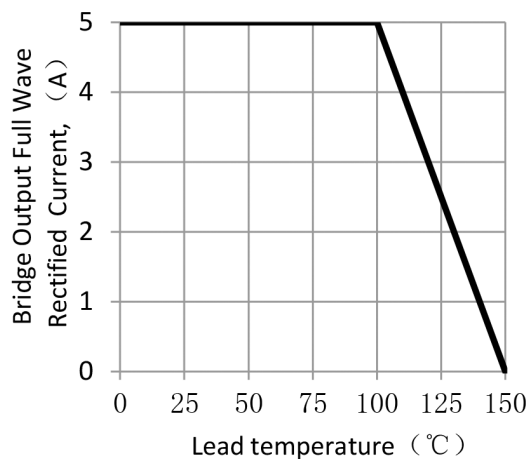


Figure 1. Forward Current Derating Curve

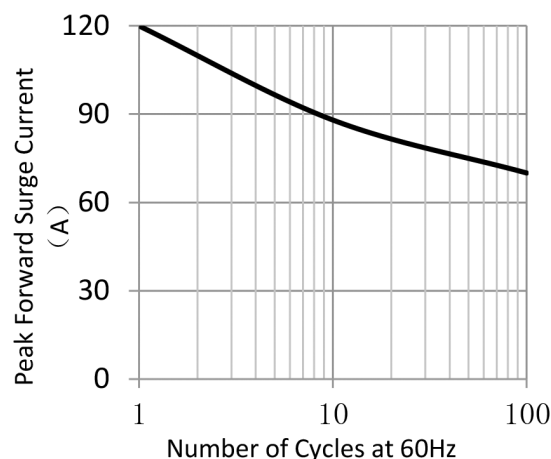


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

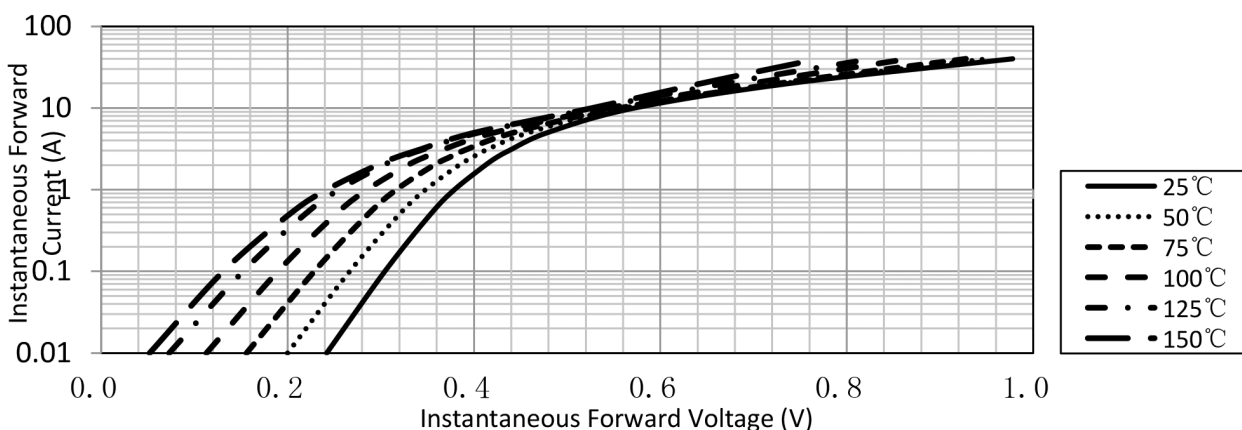


Figure 3. Typical Instantaneous Forward Characteristics (SK52A thru SK54A)

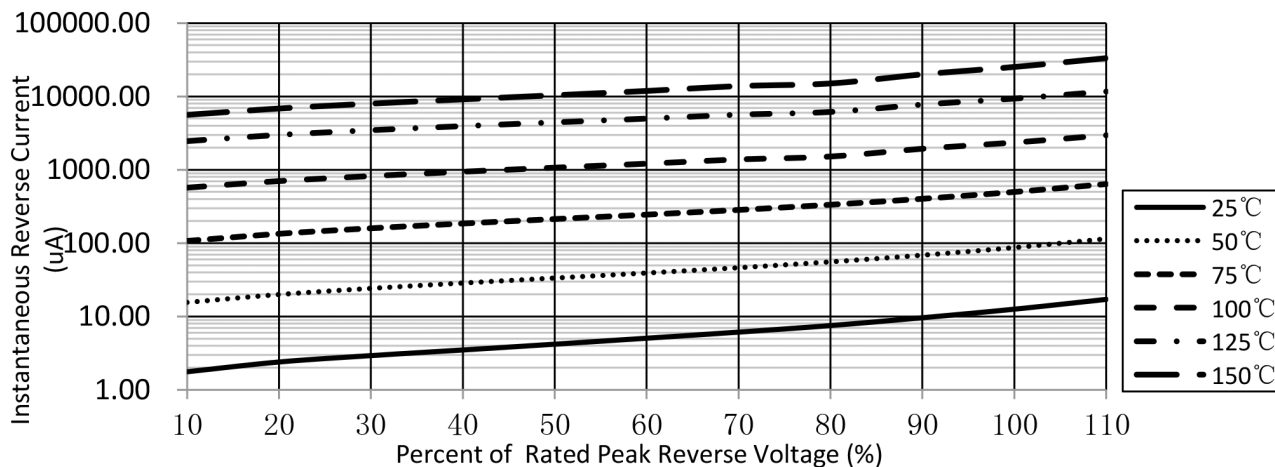


Figure 4. Typical Reverse Characteristics (SK52A thru SK54A)

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

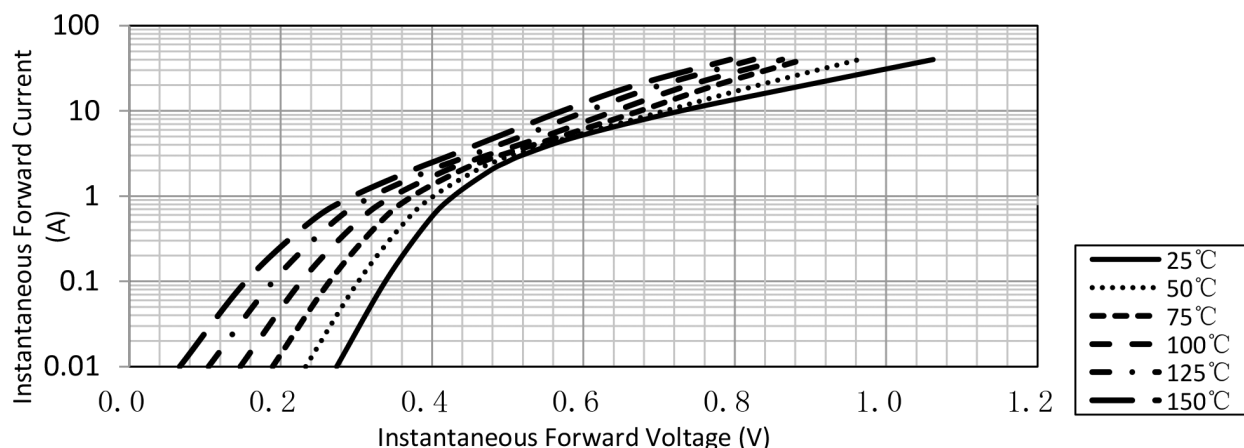


Figure 5. Typical Instantaneous Forward Characteristics
(SK55A thru SK56A)

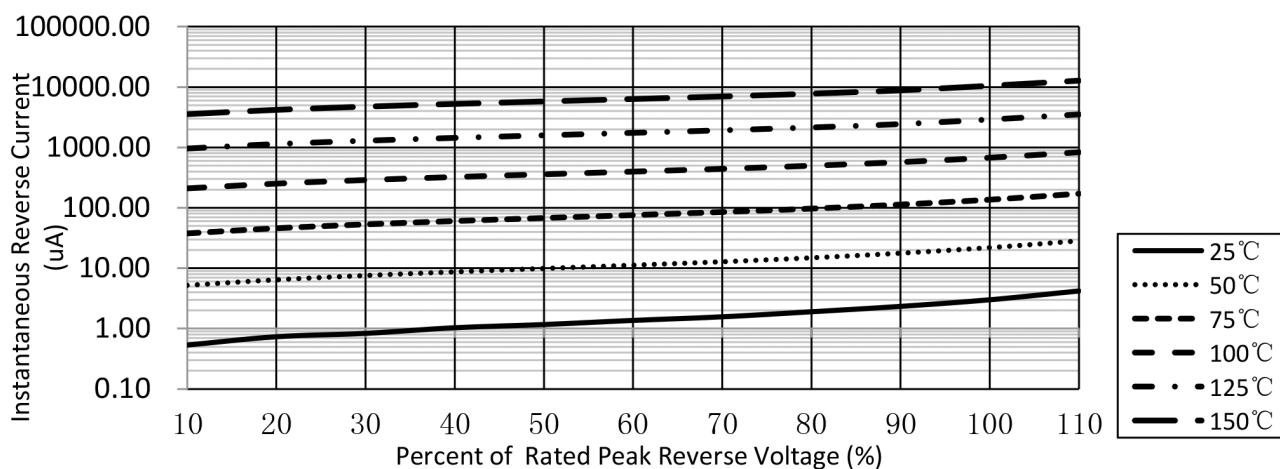
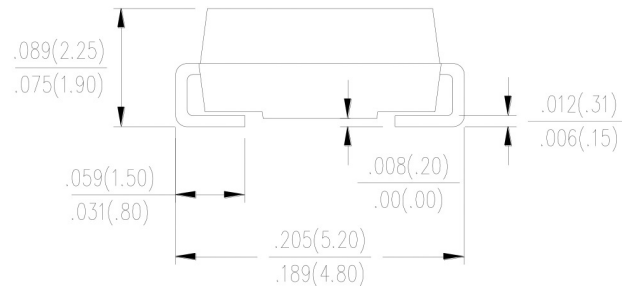
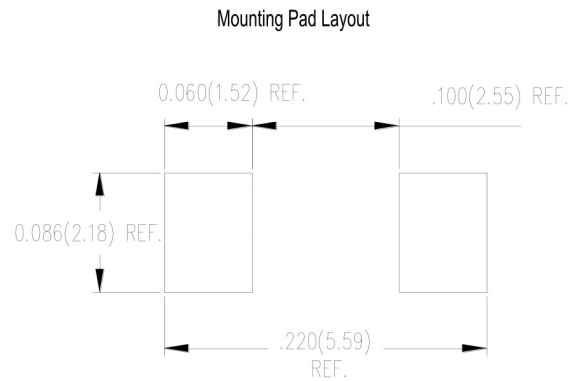
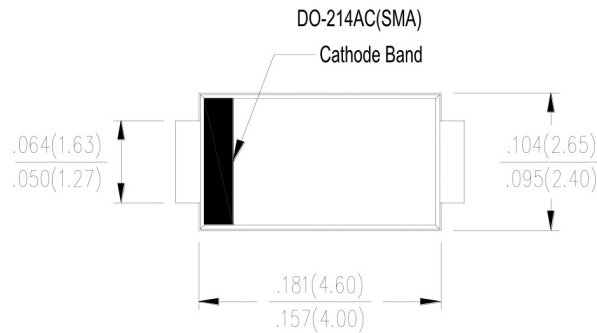


Figure 6. Typical Reverse Characteristics
(SK55A thru SK56A)

Package Outline Dimensions

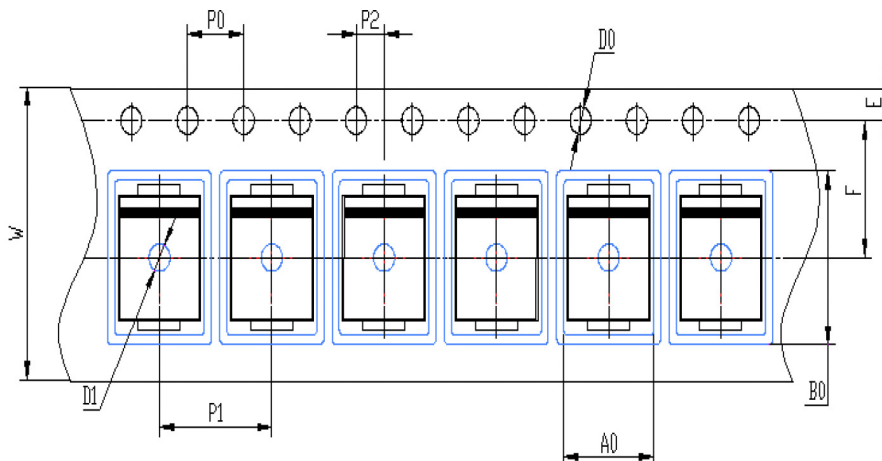
in inches (millimeters)



Packing Information

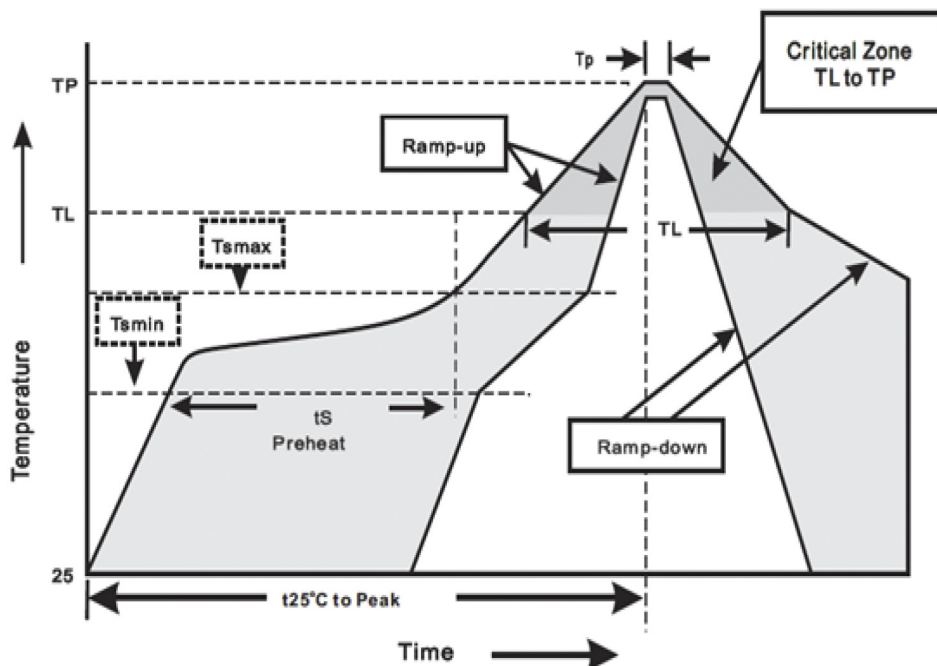
7500 pcs/Reel, 18 Reels/Box; 12mm Tape, 13" Reel

Tape & Reel Specification



Symbols	SMA(mm)
W	12 ± 0.2
E	1.75 ± 0.1
F	5.5 ± 0.05
D0	1.5 ± 0.1
D1	1.50 +0.1/-0
P0	4.0 ± 0.1
P1	4.0 ± 0.1
P2	2.0 ± 0.05
A0	2.65 ± 0.1
B0	5.25 ± 0.1

Soldering Parameters



Reflow Soldering		Sn-Pb Eutectic Assembly	Pb-Free assembly
Pre Heat	- Temperature Min (Ts(min))	100°C	150°C
	- Temperature Max (Ts(max))	150°C	200°C
	- Time (min to max) (ts)	60 – 120 secs	60 – 180 secs
Average ramp up rate (Liquidus) Temp (TL) to peak		3°C/second max	3°C/second max
TS(max) to TL - Ramp-up Rate		3°C/second max	3°C/second max
Reflow	- Temperature (TL) (Liquidus)	183°C	217°C
	- Time (min to max) (ts)	60 – 150 seconds	60 – 150 seconds
Peak Temperature (TP)		240+0/-5 °C	260+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 (TP)		6 minutes Max.	8 minutes Max.
Do not exceed		240°C	260°C

Wave Soldering	
Peak Temperature :	265°C
Dipping Time :	10 seconds
Soldering :	1 time