

SK22A - SK215A



2.0 AMPS. Surface Mount Schottky Barrier Rectifiers

SMA/DO-214AC



Features

- ♦ For surface mounted application
- ♦ Metal to silicon rectifier, majority carrier conduction
- ♦ Low forward voltage drop
- ♦ Easy pick and place
- ♦ High surge current capability
- Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ♦ Epitaxial construction
- High temperature soldering: 260°C / 10 seconds at terminals

Mechanical Data

- ♦ Case: Molded plastic
- ♦ Terminals: Pure tin plated, lead free.
- ♦ Polarity: Indicated by cathode band
- ♦ Packaging: 12mm tape per EIA STD RS-481
- ♦ Weight: 0.093gram

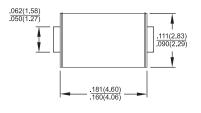
Maximum Ratings and Electrical Characteristics

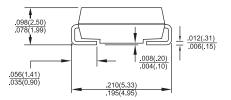
Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Type Number	Symbol	SK 22A	SK 23A	SK 24A	SK 25A	SK 26A	SK 29A	SK 210A	SK 215A	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	20	30	40	50	60	90	100	150	V
Maximum RMS Voltage	V _{RMS}	14	21	28	35	42	63	70	105	V
Maximum DC Blocking Voltage	V _{DC}	20	30	40	50	60	90	100	150	V
Maximum Average Forward Rectified Current at T_L (See Fig. 1)	I _(AV)	2.0							А	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	50							А	
Maximum Instantaneous Forward Voltage (Note 1) @ 2.0A	V _F	0.5 0.7			0.	85	0.95	V		
Maximum DC Reverse Current $@T_A = 25 °C$	I _R	0.5 0.1							mA	
at Rated DC Blocking Voltage $@T_A = 125 \degree C$			10		5	.0	2.0			mA
Non-repetitive Peak Reverse Avalanche Energy L=40mH Tj=25 °C max prior to Surge, Inductive load Switched off	E _{RSM}	20						mJ		
Typical Junction Capacitance	Cj	10				50			рF	
Typical Thermal Resistance (Note 2)	R _{θJA}	88							°C/W	
Operating Temperature Range	TJ	-65 to +125				-65 to +150			°C	
Storage Temperature Range	Tstg	-65 to +150							°C	

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle

2. Measured on P.C.Board with 0.2" x 0.2"(5.0mm x 5.0mm) Copper Pad Areas.





Dimensions in inches and (millimeters)



100

FIG. 1- MAXIMUM FORWARD CURRENT DERATING FIG. 2- MAXIMUM NON-REPETITIVE FORWARD CURVE SURGE CURRENT 2.0 50 RESISTIVE OR PEAK FORWARD SURGE CURRENT.(A) INDUCTIVELOAD AVERAGE FORWARD CURRENT.(A) 8.3ms Single Half Sine Wave JEDEC Method AT RATED TL 40 SK26A - SK215A 1.5 30 SK22A -SK25A 1.0 20 0.5 10 PCB MOUNTED ON 0.2X0.2" 11 Т 0 0 10 NUMBER OF CYCLES AT 60Hz 90 100 110 120 130 LEAD TEMP ERATURE.(C) 70 50 60 80 140 150 160 FIG. 4- TYPICAL REVERSE CHARACTERISTICS FIG. 3- TYPICAL FORWARD CHARACTERISTICS 100 50 INSTANTANEOUS REVERSE CURRENT.(mA) SK2 INSTANTANEOUS FORWARD CURRENT.(A) 10 10 SK22A-24A' TJ=125 -26A .TJ=125 0 0.1 2A-24 0.0 PULSE WIDTH=300µs SK2 1% DUTY CYCLE 0.001 0.01 0 20 40 60 80 100 120 140 0.3 0.5 0.7 0.9 FORWARD VOLTAGE.(V) 0 0.1 1.1 1.3 1.5 PERCENT OF RATED PEAK REVERSE VOLTAGE.(%) FIG.6- TYPICAL TRANSIENT THERMAL FIG. 5- TYPICAL JUNCTION CAPACITANCE CHARACTERISTICS 400 100 (v/) Tj=25°C SI f=1.0MHz Vsig=50mVp-p JUNCTION CAPACITANCE.(pF) ?6A TRANSCIENT THERMAL IMPEDANCE, 100 10 ┼┼┼┼ SA 9 П тп

0.

100

0.01

0.1

PULSE DURATION, (sec)

RATINGS AND CHARACTERISTIC CURVES (SK22A THRU SK215A)

Version: C07

10

100

10

0.1

1 10 REVERSE VOLTAGE.(V)