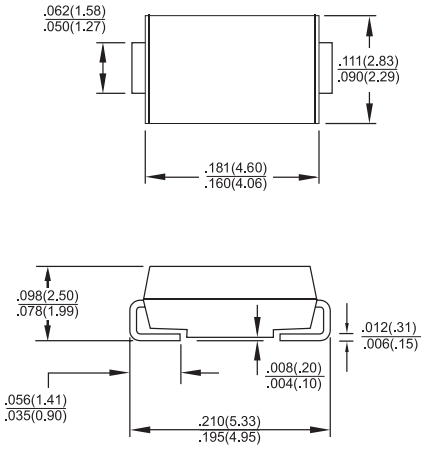
TAIWAN SEMICONDUCTOR

SK22A - SK215A

2.0 AMPS. Surface Mount Schottky Barrier Rectifiers

SMA/DO-214AC

RoHS COMPLIANCE



Dimensions in inches and (millimeters)

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								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	50								A
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°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			pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	88								°C/W
Operating Temperature Range	T_J	-65 to +125				-65 to +150				°C
Storage Temperature Range	T_{STG}	-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.

Version: C07

RATINGS AND CHARACTERISTIC CURVES (SK22A THRU SK215A)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

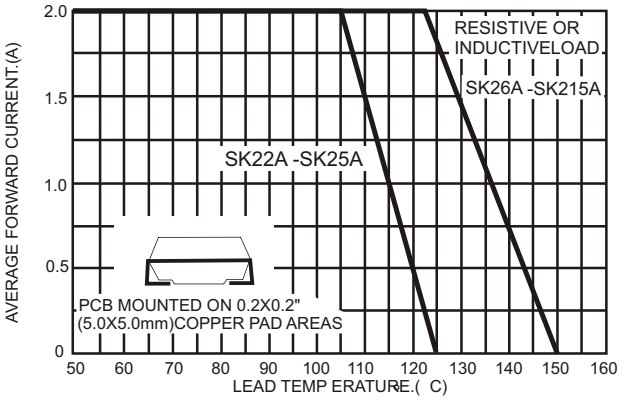


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

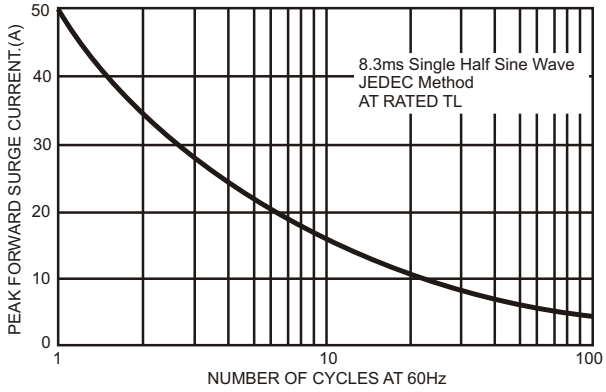


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

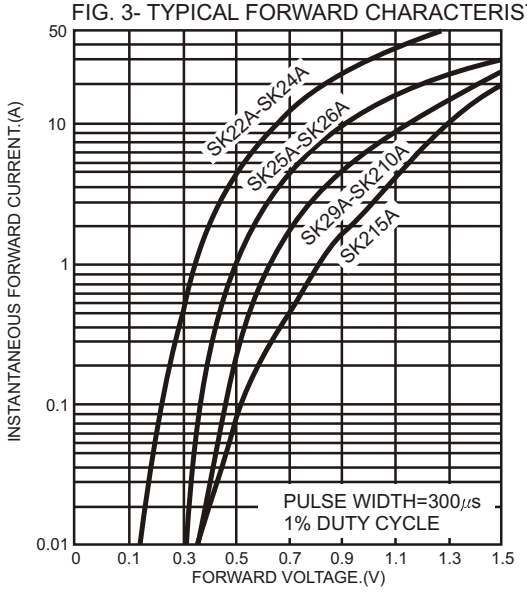


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

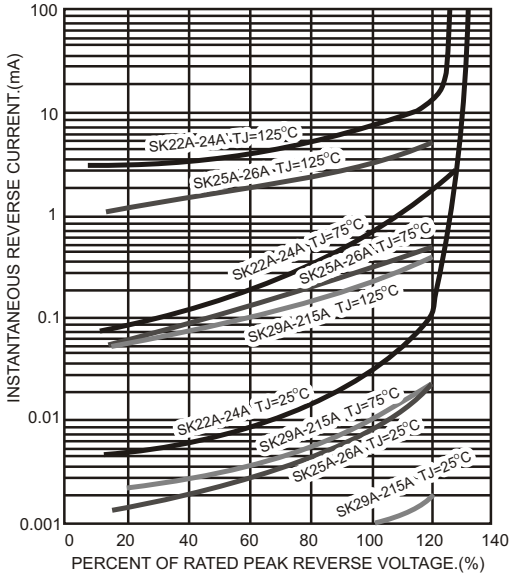


FIG. 5- TYPICAL JUNCTION CAPACITANCE

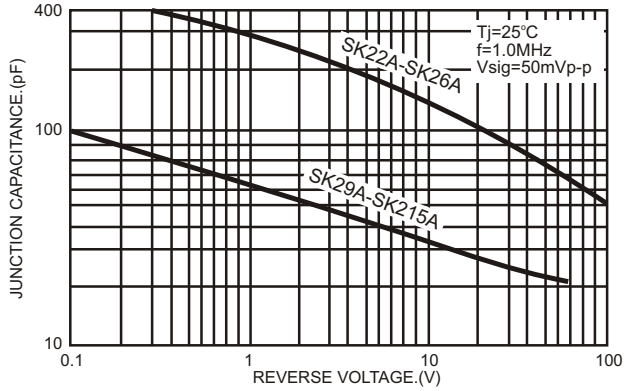


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS