

## Surface Mount Schottky Barrier rectifiers

Using the Schottky Barrier principle with a Molybdenum barrier meta. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes, in surface mount applications where compact size and weight are critical to the system.

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 125 Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

Plating pb free is indicated by box

### MAXIMUM RATINGS

Characteristic	Symbol	SK22	SK23	SK24	SK25	SK26	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	30	40	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V
Average Rectifier Forward Current	$I_O$	2.0					A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	$I_{FSM}$	30					A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +125					

### ELECTRIAL CHARACTERISTICS

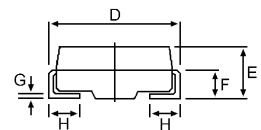
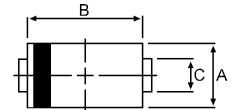
Characteristic	Symbol	SK22	SK23	SK24	SK25	SK26	Unit
Maximum Instantaneous Forward Voltage ( $I_F = 2$ Amp)	$V_F$	0.55			0.65		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$ ) (Rated DC Voltage, $T_C = 125$ )	$I_R$	0.5			20		mA
Typical Junction Capacitance (Reverse Voltage of 4 volts & $f=1$ MHz)	$C_P$	100			70		pF

### SCHOTTKY BARRIER RECTIFIERS

**2.0 AMPERES  
20-60 VOLTS**



**DO-214AC(SMA)**



DIM	MILLIMETERS	
	MIN	MAX
A	2.20	2.80
B	4.10	4.70
C	1.30	1.70
D	4.70	5.30
E	1.90	2.50
F		1.30
G		0.30
H	0.95	1.50

CASE---  
Transfer molded  
plastic

POLARITY---  
Cathode indicated  
polarity band

# SK22 thru SK26

FIG-1 FORWARD CURRENT DERATING CURVE

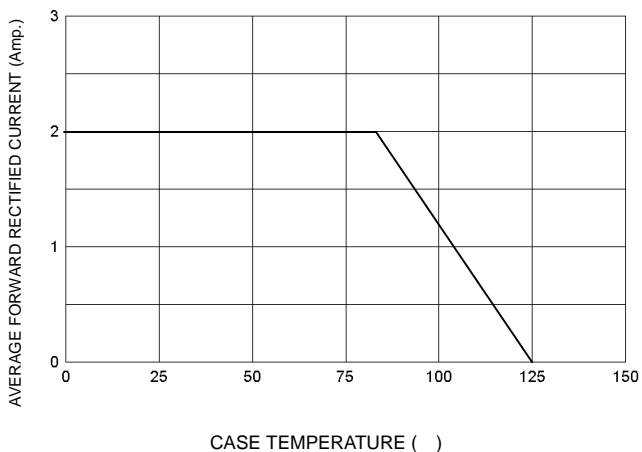


FIG-2 TYPICAL FORWARD CHARACTERISTICS

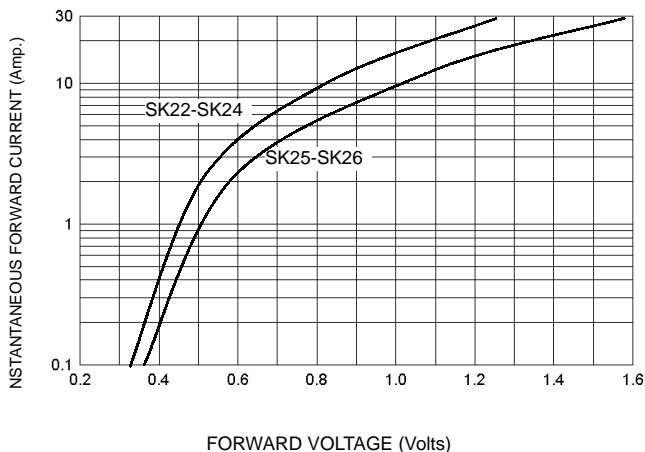


FIG-3 TYPICAL REVERSE CHARACTERISTICS

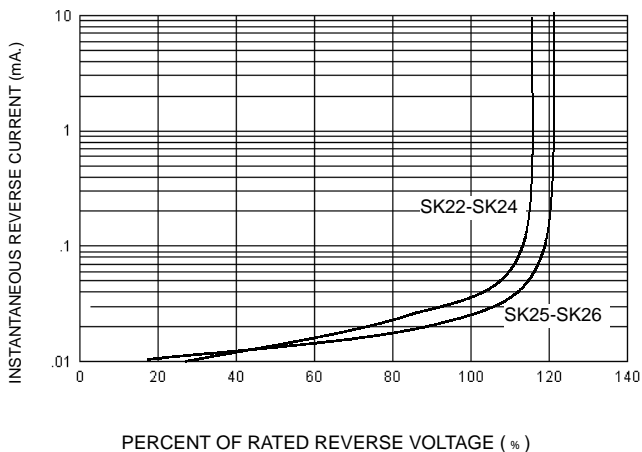


FIG-4 TYPICAL JUNCTION CAPACITANCE

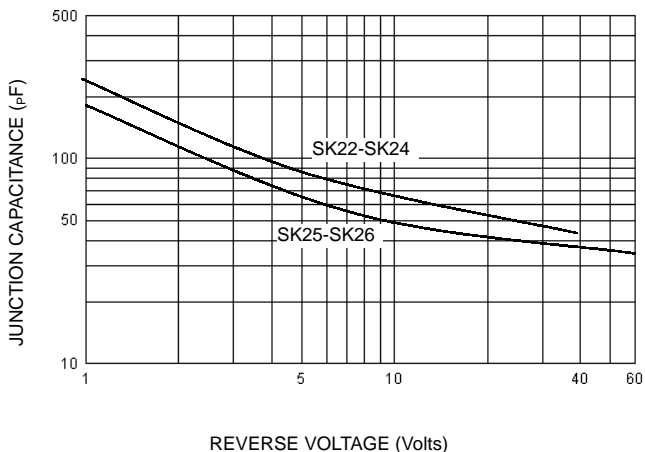
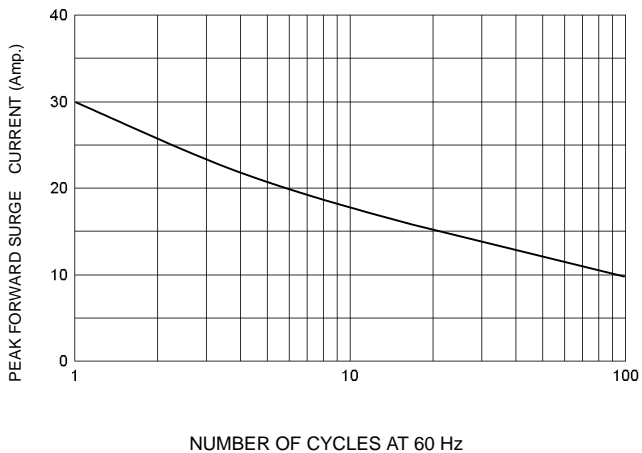


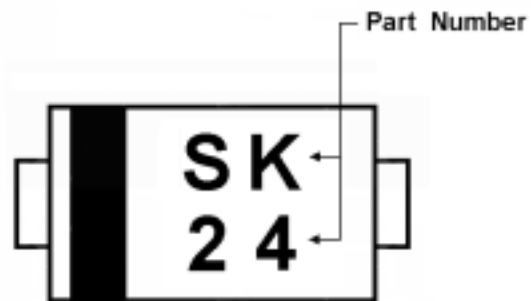
FIG-5 PEAK FORWARD SURGE CURRENT



## SK22 thru SK26

---

Part Marking Information & packing



Packing:  
Reel:5000pcs/reel ;2 reels/box; 5 box/carton

# Reliability Report

Product Type : SS24A(SK24M)  
 Product Family : SKY2A(SMA)  
 Test Period : 2005.07  
 Date Code : \_\_\_\_\_

Report No : CZK05-07-06  
 Date Report : 2005.07.29  
 Prepared by : 楊翠英  
 Approved by : 姜行軍

Test Item	TYPE	Test Condition	Test Duration	Fail Qty	Sample Size	% Fail
HTRB	SS24A	T=100°C VR=32V	150H	0	22	0
Forward Surge	SS24A	IF=2A IFSM=50A	8.3MS	0	22	0
P.C.T	SS24A	T=121°C/15PSIG	48H	0	22	0
Hot Tip Dip	SS24A	T=260°C	10SEC	0	22	0
Temp. Shock	SS24A	T1=-55°C T2=150°C N=10	T1=30MIN T2=30MIN	0	22	0
High Temperature Storage	SS24A	T=150°C	150H	0	22	0
Humidity Storage	SS24A	T=85°C R.H 85%	144H	0	22	0
Shelf Life	SS24A	T=25±5°C	720H	0	22	0

**Others**

SS24A : LOT NO: K0507032090

HOT TIP DIP=>Resistance to solder heat....260±5°C 10sec pass

Humidity Storage=>MSL(Moisture sensitive level)....pass Level 1

## Test Report

No. SH560473.doc/CHEM

Date: 8.29.2005

Page 1 of 3

MOSPEC SEMICONDUCTOR CORP.  
76 CHUNG SHAN RD., HSIN SHIH. TAIWAN, TAINAN, P.O.C.

The following sample(s) was/were submitted and identified on behalf of the applicant as:

Sample Name : SURFACE MOUNT RECTIFIER (SMA,SMB,SMC)  
SGS Ref No. : SHEC0050822430-7  
Buyer : SONY  
Model : SMA

Sample Receiving Date : July 29, 2005  
Testing Period : July 29 to August 04, 2005

Test Requested : 1) To determine the Cadmium Content of the submitted samples No.1~No.2.  
2) To determine the Lead content of the submitted samples No.1~No.2.  
3) To determine Mercury Content of the submitted samples No.1~No.2.  
4) To determine Hexavalent Chromium content of the submitted samples No.1~No.2.  
5) To determine the PBBs(Polybrominated biphenyls) PBBEs(PBDEs)  
(Polybrominated biphenyl ethers) Content of the submitted sample No.1.

Test method : 1) With reference to BS EN 1122:2001, Method B or other acid digestion  
Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission Spectrometry (ICP-AES) or Atomic Absorption Spectrometry.  
2) With reference to US EPA Method 3050B or other acid digestion  
Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission Spectrometry (ICP-AES) or Atomic Absorption Spectrometry.  
3) With reference to US EPA 3052 or other acid digestion, Analysis was performed by Inductively Coupled Argon Plasma – Atomic Emission Spectrometry (ICP-AES) or US EPA7473 Analysis was performed by Hg Analyzer.  
4) With reference to US EPA3060A and US EPA7196A  
Analysis was performed by UV-VIS Spectrometric method.  
5) With reference to USEPA 8081A/8270C/3540C/3550B, Analysis was performed by GC/MS.

Test Results : Please refer to next page

Signed for and on behalf of  
SGS-CSTC Chemical Laboratory

---

Ella Zhang  
Supervisor

**Test Report**

No. SH560473.doc/CHEM

Date: 8.29.2005

Page 2 of 3

Test Results :

<u>No.</u>	<u>Item</u>	<u>Unit</u>	<u>MDL</u>	<u>No.1</u>
1	Cadmium (Cd)	ppm	2	N.D.
2	Lead (Pb)	ppm	2	4
3	Mercury (Hg)	ppm	2	N.D.
4	Hexavalent Chromium (Cr VI)	ppm	2	N.D.
5	PBBs(Polybrominated biphenyls)	---	---	---
	PBBs(Bromobiphenyl)	ppm	5	N.D.
	PBBs(Dibromobiphenyl)	ppm	5	N.D.
	PBBs(Tribromobiphenyl)	ppm	5	N.D.
	PBBs(Tetrabromobiphenyl)	ppm	5	N.D.
	PBBs(Pentabromobiphenyl)	ppm	5	N.D.
	PBBs(Hexabromobiphenyl)	ppm	5	N.D.
	PBBs(Heptabromobiphenyl)	ppm	5	N.D.
	PBBs(Octabromobiphenyl)	ppm	5	N.D.
	PBBs(Nonabromobiphenyl)	ppm	5	N.D.
	PBBs(Polybrominated biphenyls)	ppm	5	N.D.
	PBBEs(PBDEs)(Polybrominated biphenyl ethers)	---	---	---
	PBBEs(PBDEs)(Monobromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Dibromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Tribromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Tetrabromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Pentabromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Hexabromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Heptabromobiphenyl ether)	ppm	5	N.D.
	PBBEs(PBDEs)(Octabromobiphenyl ether)	ppm	5	N.D.
PBBEs(PBDEs)(Nonabromobiphenyl ether)	ppm	5	N.D.	
PBBEs(PBDEs)(Decabromobiphenyl ether)	ppm	5	N.D.	

<u>No.</u>	<u>Item</u>	<u>Unit</u>	<u>MDL</u>	<u>No.2</u>
1	Cadmium (Cd)	ppm	2	N.D.
2	Lead (Pb)	ppm	2	N.D.
3	Mercury (Hg)	ppm	2	N.D.
4	Hexavalent Chromium (Cr VI)	ppm	2	N.D.

## Test Report

No. SH560473.doc/CHEM

Date: 8.29.2005

Page 3 of 3

### Sample Appearance Description:

No.1 Black plastic

No.2 Silvery metal

Note : ppm=mg/kg

MDL= Method Detection Limit

N.D. = Not detected.<MDL)

Result of sample No.1 is taken from report No. SH551687/CHEM-No.1, Date: 2005/08/04.

Result of sample No.2 is taken from report No. SH551687/CHEM-No.2, Date: 2005/08/04.

\*\*\* End of Report \*\*\*