

### 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.

#### Features

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 150°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- \* Moisture Sensitivity Level: MSL-1



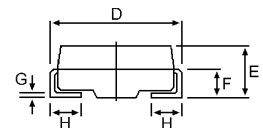
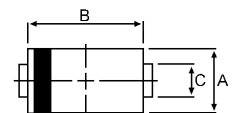
\* In compliance with EU RoHs 2002/95/EC directives

#### SCHOTTKY BARRIER RECTIFIERS

**3.0 AMPERES  
20-40 VOLTS**



**DO-214AA(SMB)**



#### MAXIMUM RATINGS

Characteristic	Symbol	MS20	MS21	MS22	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectifier Forward Current	$I_O$	3.0			A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	$I_{FSM}$	75			A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +150			°C

DIM	MILLIMETERS	
	MIN	MAX
A	3.30	3.90
B	4.20	4.60
C	1.80	2.20
D	5.10	5.60
E	1.90	2.50
F		1.30
G		0.22
H	0.95	1.35

#### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MS20	MS21	MS22	Unit
Maximum Instantaneous Forward Voltage ( $I_F$ =3.0 Amp) ( $I_F$ =9.0 Amp)	$V_F$	0.475 0.850	0.550 0.970		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C$ = 25°C) (Rated DC Voltage, $T_C$ = 125°C)	$I_R$	0.5 20			mA
Typical Thermal Resistance junction to case	$R_{\theta j-c}$	40			°C/w
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	$C_P$	210	190		pF

CASE---  
Transfer molded  
plastic

POLARITY---  
Cathode indicated  
polarity band

# MS20 Thru MS22

FIG-1 FORWARD CURRENT DERATING CURVE

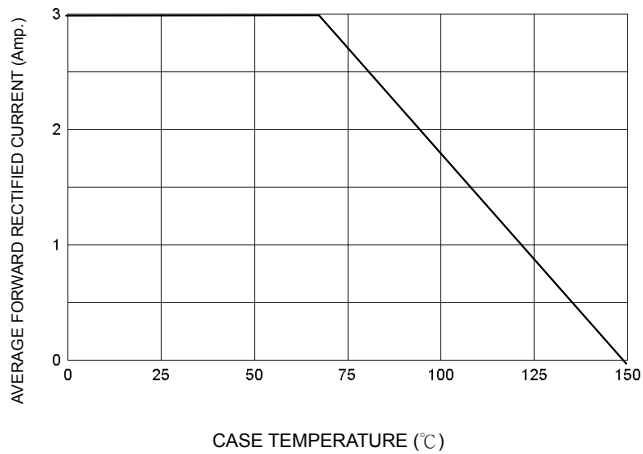


FIG-2 TYPICAL FORWARD CHARACTERISTICS

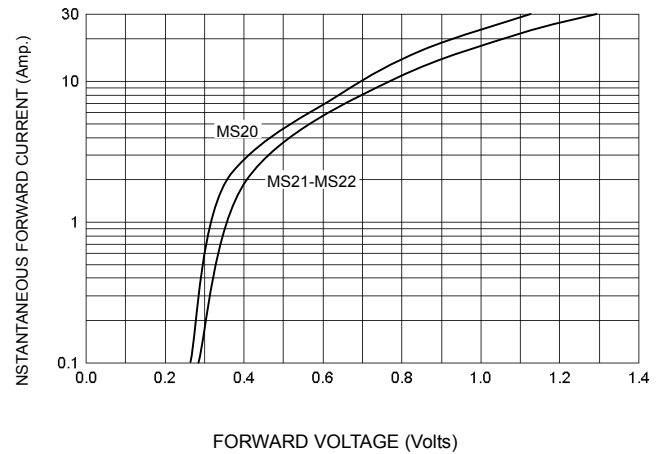


FIG-3 TYPICAL REVERSE CHARACTERISTICS

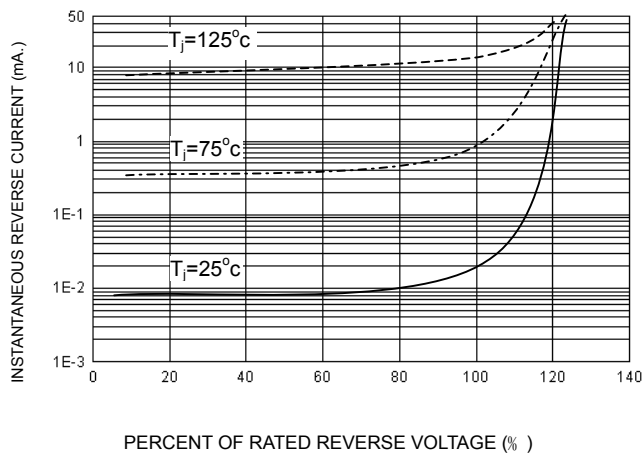


FIG-4 TYPICAL JUNCTION CAPACITANCE

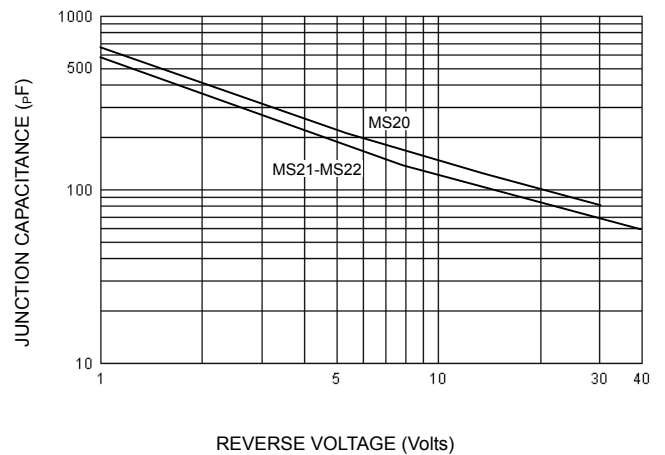
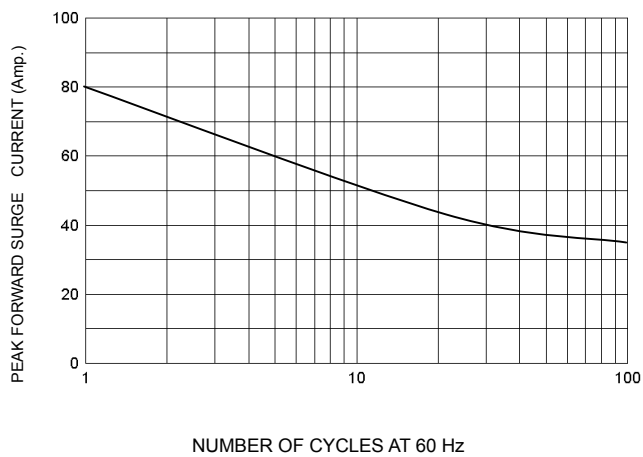


FIG-5 PEAK FORWARD SURGE CURRENT



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