

Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Molybdenum barrier metal. 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.

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

* ESD: 8KV(Min.) Human-Body Model

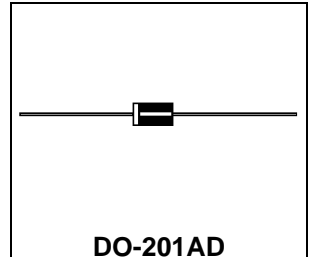
* In compliance with EU RoHs 2002/95/EC directives

The marking is indicated by part no. with "M" ex: 1N5820M~1N5822M

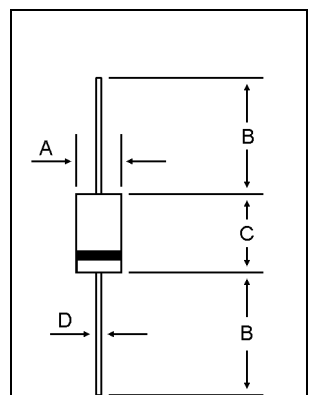


SCHOTTKY BARRIER RECTIFIERS

**3.0 AMPERES
20-40 VOLTS**



DO-201AD



MAXIMUM RATINGS

Characteristic	Symbol	1N5820M	1N5821M	1N5822M	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}	80			A
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150			°C

DIM	MILLIMETERS	
	MIN	MAX
A	5.00	5.60
B	25.40	---
C	7.20	9.50
D	1.20	1.30

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	1N5820M	1N5821M	1N5822M	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, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$)	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

1N5820M Thru 1N5822M

FIG-1 FORWARD CURRENT DERATING CURVE

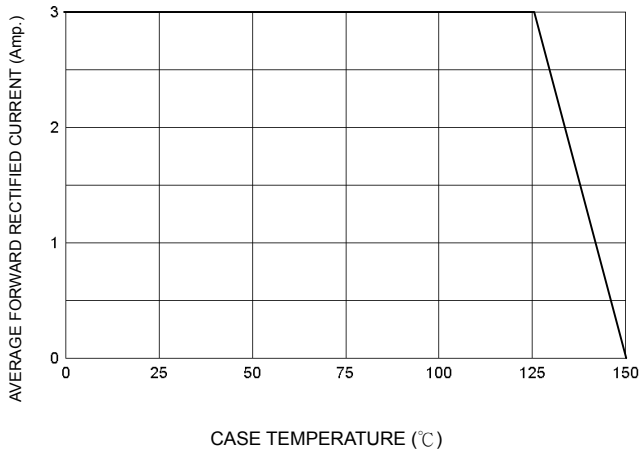


FIG-2 TYPICAL FORWARD CHARACTERISTICS

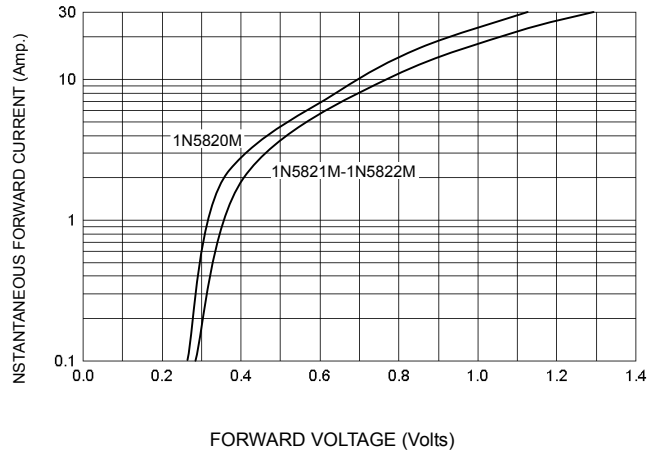


FIG-3 TYPICAL REVERSE CHARACTERISTICS

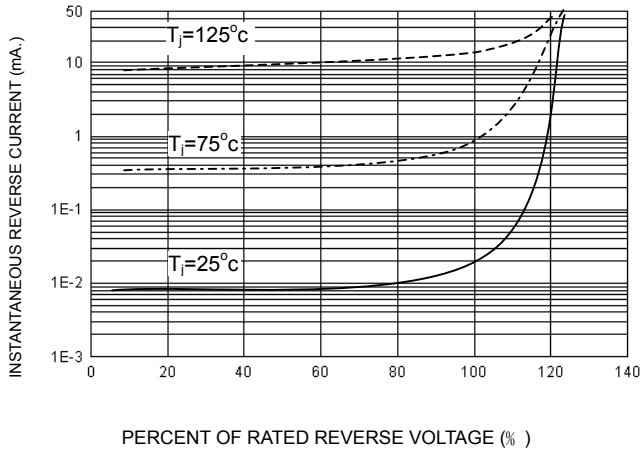


FIG-4 TYPICAL JUNCTION CAPACITANCE

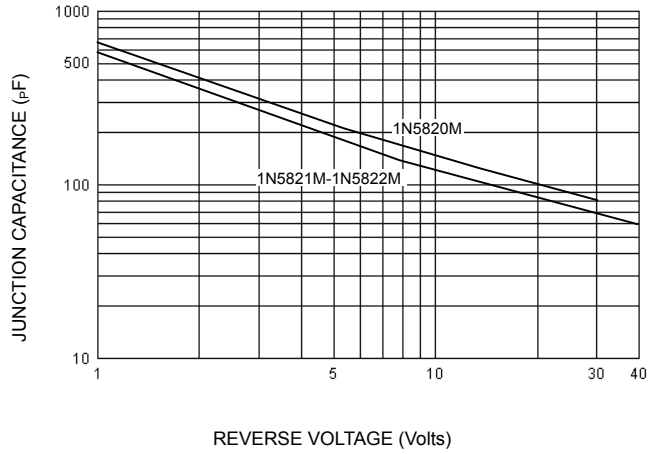
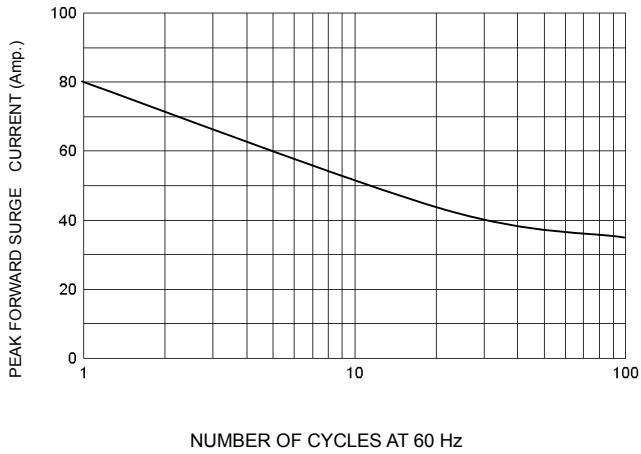


FIG-5 PEAK FORWARD SURGE CURRENT



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