MOSPEC

MH31 thru MH35

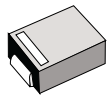
Surface Mount
High Efficiency Power Rectifiers

Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

* Low Power Loss, High efficiency
* Glass Passivated chips junction
* 150 °C Operating Junction Temperature
* Low Stored Charge Majority Carrier Conduction
* Low Forward Voltage Drop , High Current Capability
* High-Switching Speed 50 & 75 Nanosecond Recovery Time
* Small Compact Surface Mountable Package with J-Bend Lead
* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

HIGH EFFICIENCY RECTIFIERS

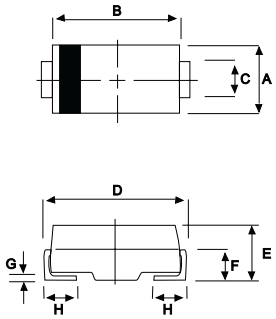
3.0 AMPERES
50 -- 400 VOLTS



DO-214AA(SMB)

MAXIMUM RATINGS

Characteristic	Symbol	MH31	MH32	MH33	MH34	MH35	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	300	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	210	280	V
Average Rectifier Forward Current	I_O	3.0					A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware,single phase,60Hz)	I_{FSM}	50					A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	- 65 to + 150					°C



DIM	MILLMETERS	
	MIN	MAX
A	3.30	3.90
B	4.20	4.60
C	1.80	2.20
D	4.90	5.60
E	1.90	2.50
F	---	1.30
G	---	0.22
H	0.85	1.45

CASE---
Transfer molded plastic

POLARITY---
Cathode indicated polarity band

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	MH31	MH32	MH33	MH34	MH35	Unit
Maximum Instantaneous Forward Voltage (I_F=3.0 Amp, T_C = 25 °C)	V_F	1.00			1.30		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25 °C) (Rated DC Voltage, T_C = 125 °C)	I_R	5.0 70					uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	50			75		ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P	55			45		pF

MH31 Thru MH35

FIG-1 TYPICAL FORWARD CHARACTERISTICS

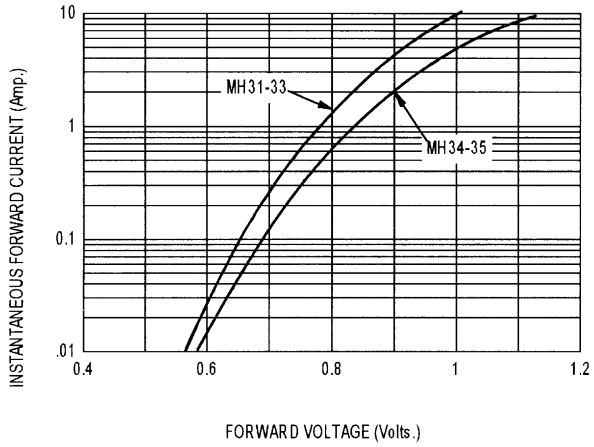
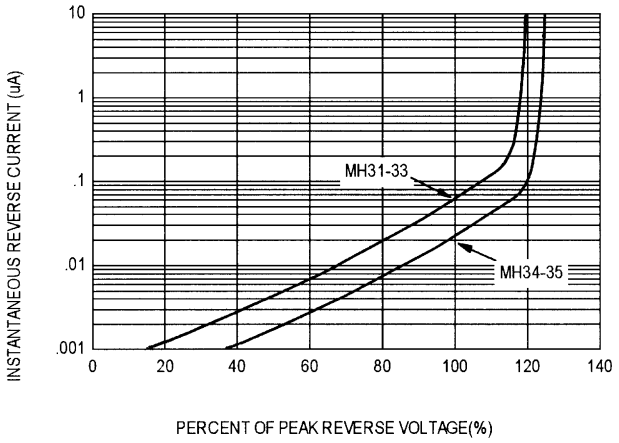
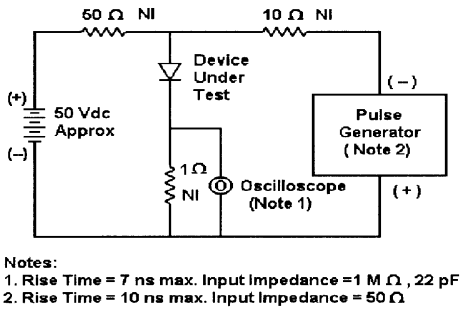


FIG-2 TYPICAL REVERSE CHARACTERISTICS





Notes:
1. Rise Time = 7 ns max. Input Impedance =1 M Ω , 22 pF
2. Rise Time = 10 ns max. Input Impedance = 50 Ω

FIG-3 FORWARD CURRENT DERATING CURVE

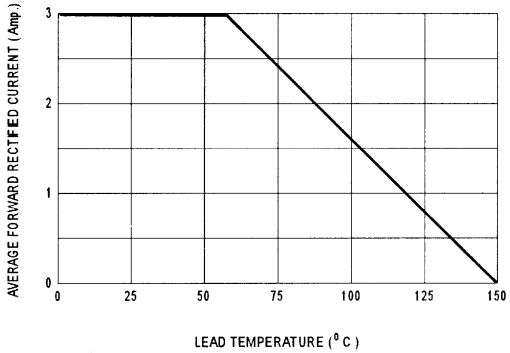


FIG-4 TYPICAL JUNCTION CAPACITANCE

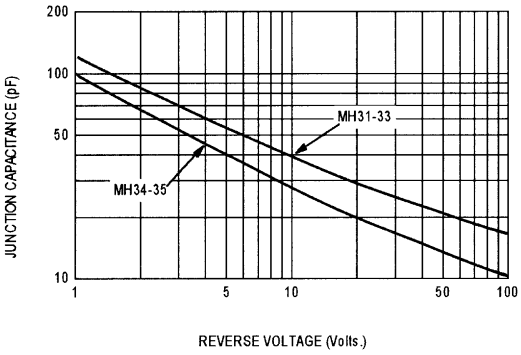
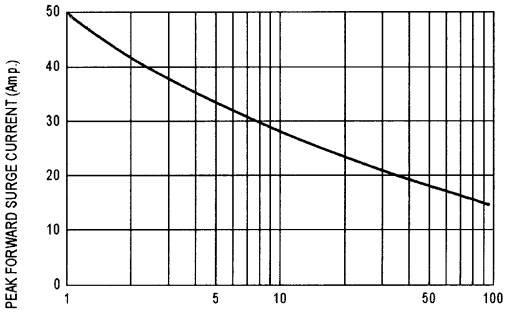


FIG-5 PEAK FORWARD SURGE CURRENT



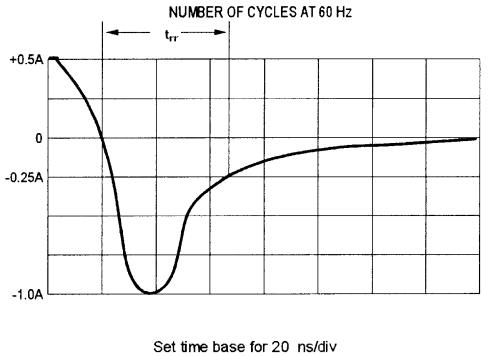


Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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