

ANTENNA SWITCH
MI308
 PIN DIODE
 RF POWER SWITCHING

DESCRIPTION

The MI308 PIN diode is employing a high reliability glass construction, designed for solid state antenna switches in commercial two-way radios.

FEATURES

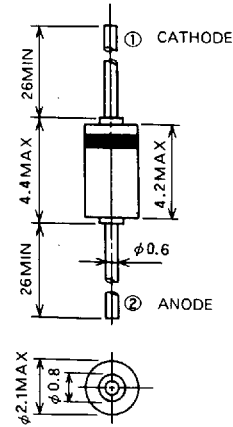
- High power handling
- High zero bias impedance
- Low forward bias resistance
- Low insertion loss, High isolation
- Low distortion (TX: spurious < -80dBc, RX: inter-modulation -73dBc @90dBμ)

APPLICATION

High power antenna switch (10W output two-way radio)

OUTLINE DRAWING

Dimension: mm



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

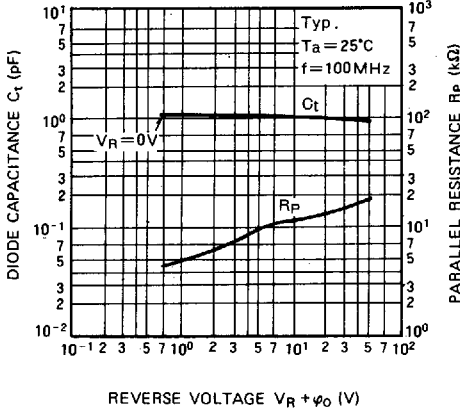
Symbol	Parameter	Rating	Unit
V _{RM}	Repetitive peak reverse voltage	50	V
V _R	Reverse voltage	50	V
I _{FSM} *	Forward surge current	2	A
P	Power dissipation	500	mW
T _j	Junction temperature	175	°C
T _{stg}	Storage temperature	-55 to 175	°C

* : t=5sec

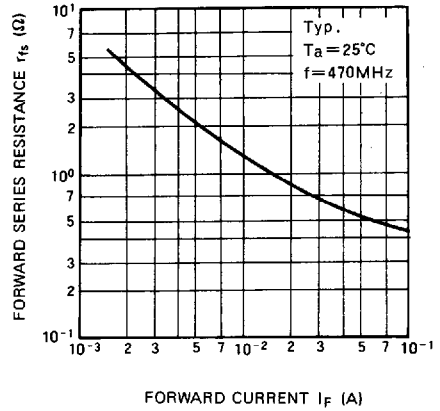
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I _{R1}	Reverse current	V _R = 50V			10	μA
I _{R2}	Reverse current	V _R = 45V			0.5	μA
I _F	Forward current	V _F = 1.0V	100			mA
r _{fs}	Forward series resistance	I _F = 50 mA, f = 470MHz		0.5	0.7	Ω
C _t	Diode capacitance	V _R = 0V, f = 100MHz			1.6	pF
R _p	Parallel resistance	V _R = 0V, f = 100MHz	1.0	3.0		kΩ

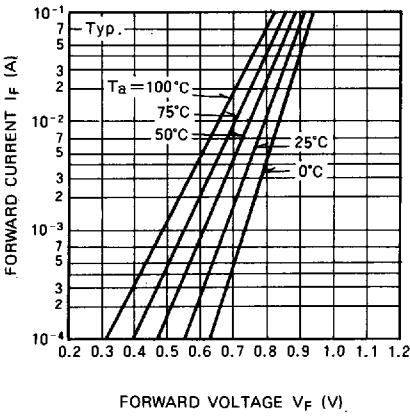
TYPICAL PERFORMANCE DATA
DIODE CAPACITANCE VS.
REVERSE VOLTAGE CHARACTERISTICS



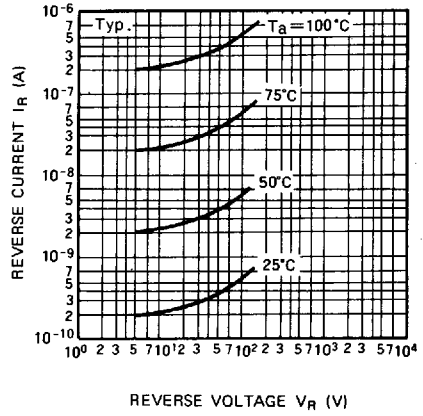
FORWARD SERIES RESISTANCE VS.
FORWARD CURRENT CHARACTERISTICS



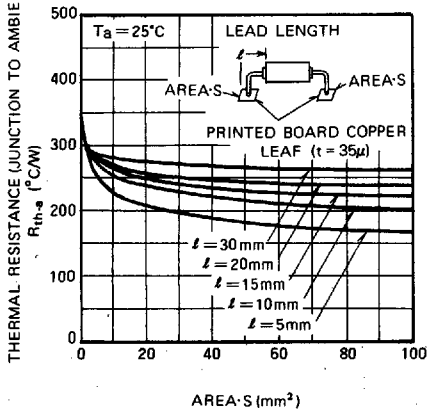
FORWARD CURRENT VS.
FORWARD VOLTAGE CHARACTERISTICS



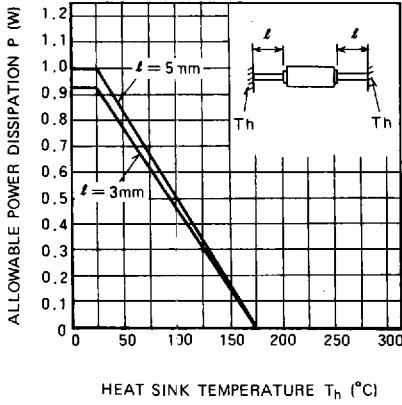
REVERSE CURRENT VS.
REVERSE VOLTAGE CHARACTERISTICS



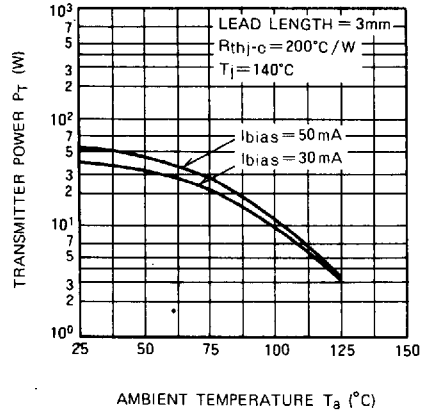
THERMAL RESISTANCE
(JUNCTION TO AMBIENT) VS. AREA
CHARACTERISTICS



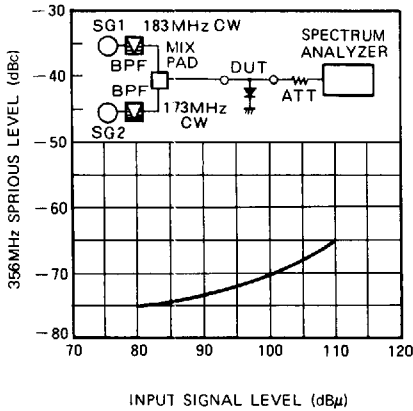
ALLOWABLE POWER DISSIPATION
VS. HEAT SINK TEMPERATURE
CHARACTERISTICS



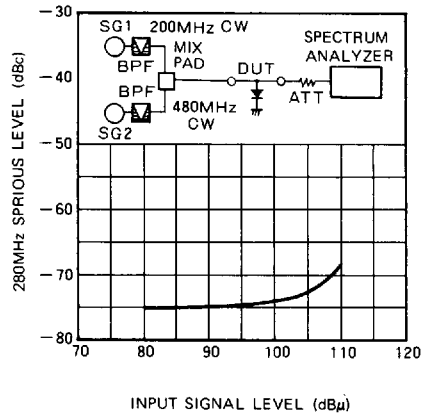
TRANSMITTER POWER VS.
AMBIENT TEMPERATURE
CHARACTERISTICS



INTER MODULATION
DISTORTION



INTER MODULATION
DISTORTION



INTER MODULATION
DISTORTION

