

DESCRIPTION

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

FEATURES

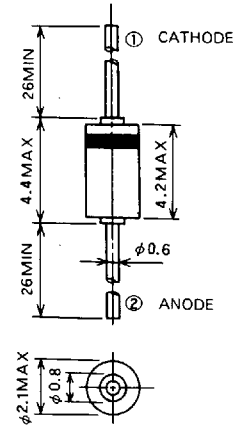
- High power handling
- High zero bias impedance
- Low forward bias resistance
- Low insertion loss, High isolation
- Low distortion (TX: spurious < -80dBc, RX: inter-modulation -73dBc @90dBμ)

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

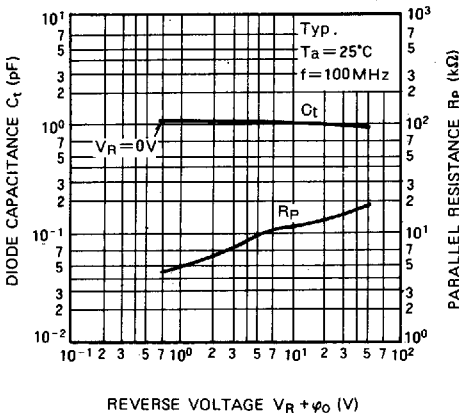
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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 =50mA, 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

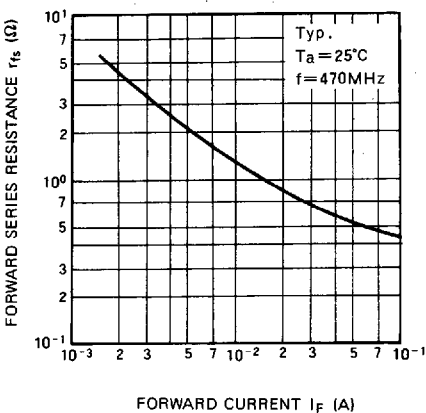
**PIN DIODE
RF POWER SWITCHING**

TYPICAL PERFORMANCE DATA

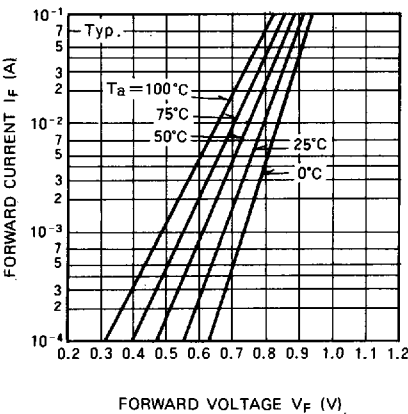
**DIODE CAPACITANCE VS.
REVERSE VOLTAGE CHARACTERISTICS**



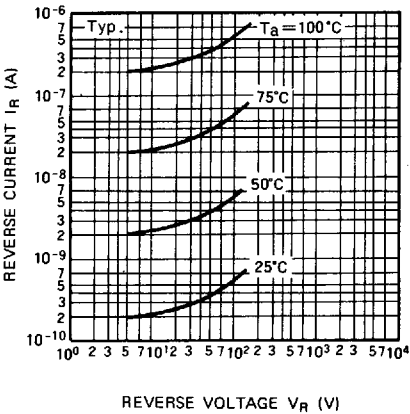
**FORWARD SERIES RESISTANCE VS.
FORWARD CURRENT CHARACTERISTICS**



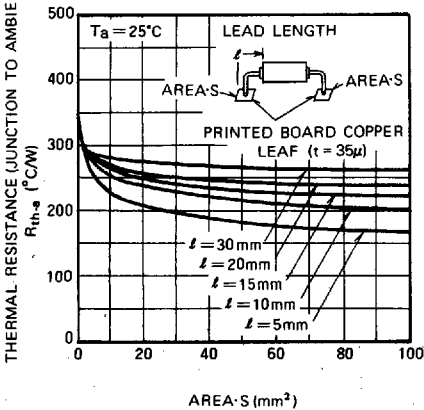
**FORWARD CURRENT VS.
FORWARD VOLTAGE CHARACTERISTICS**



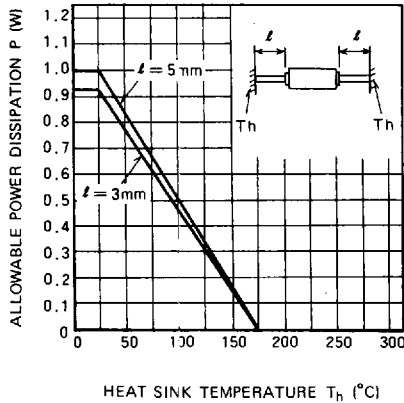
**REVERSE CURRENT VS.
REVERSE VOLTAGE CHARACTERISTICS**



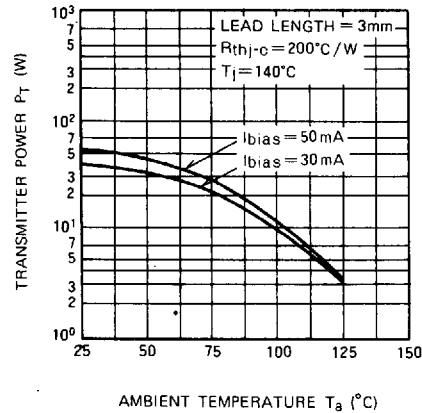
**THERMAL RESISTANCE
(JUNCTION TO AMBIENT) VS. AREA
CHARACTERISTICS**



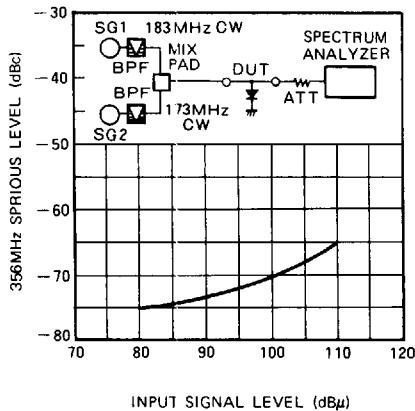
ALLOWABLE POWER DISSIPATION
VS. HEAT SINK TEMPERATURE
CHARACTERISTICS



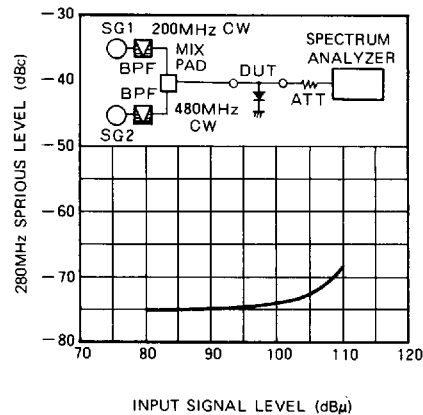
TRANSMITTER POWER VS.
AMBIENT TEMPERATURE
CHARACTERISTICS



INTER MODULATION
DISTORTION



INTER MODULATION
DISTORTION



INTER MODULATION
DISTORTION

