

DESCRIPTION

The MI407 PIN diode is employing a high reliability glass construction, designed for solid state antenna switches in commercial two-way radios.

FEATURES

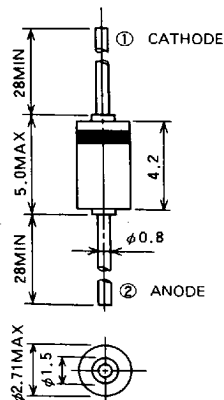
- High power handling
- High zero bias impedance
- Low forward bias resistance
- Low insertion loss, High isolation
- Low distortion (TX: spurious < -80dBc, RX: inter-modulation -73dBc @90dBμ)

APPLICATION

High power antenna switch (25W output two-way radio)

OUTLINE DRAWING

Dimension: mm



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	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	1	W
T_j	Junction temperature	175	°C
T_{stg}	Storage temperature	-55 to 175	°C

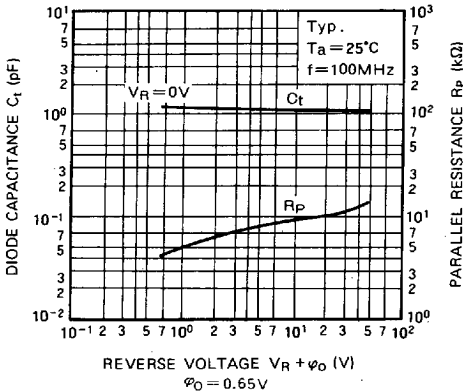
* : t=5sec

ELECTRICAL CHARACTERISTICS (Ta=25°C)

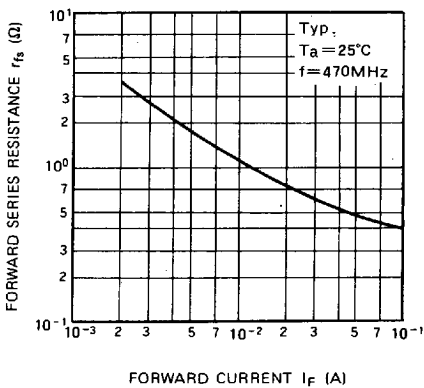
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I_{R1}	Reverse current	$V_R=50V$			10	μA
I_{R2}	Reverse current	$V_R=45V$			0.5	μA
I_F	Forward current	$V_F=1.0V$	100			mA
r_{fs}	Forward series resistance	$I_F=50mA, f=470MHz$		0.5	0.7	Ω
C_t	Diode capacitance	$V_R=0V, f=100MHz$			1.8	pF
R_p	Parallel resistance	$V_R=0V, f=100MHz$	1.0	3.0		kΩ

TYPICAL PERFORMANCE DATA

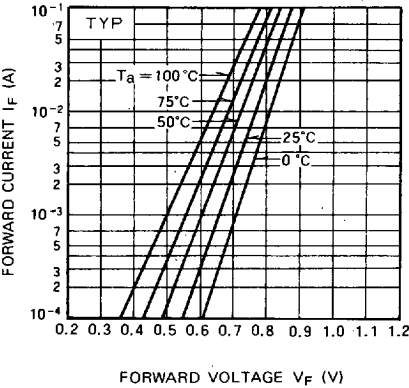
DIODE CAPACITANCE VS.
REVERSE VOLTAGE CHARACTERISTICS



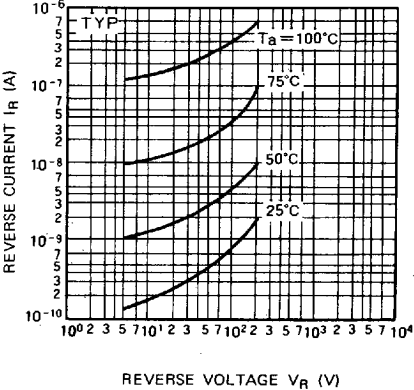
FORWARD SERIES RESISTANCE VS.
FORWARD CURRENT CHARACTERISTICS



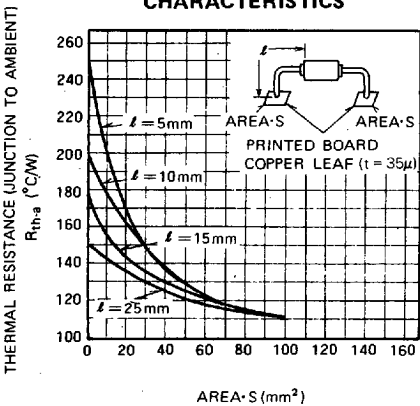
FORWARD CURRENT VS.
FORWARD VOLTAGE CHARACTERISTICS



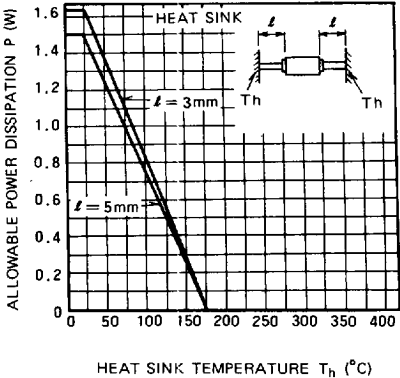
REVERSE CURRENT VS.
REVERSE VOLTAGE CHARACTERISTICS



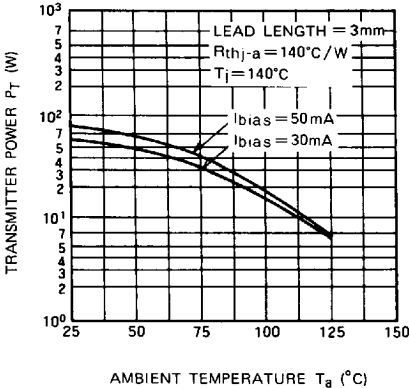
THERMAL RESISTANCE
(JUNCTION TO AMBIENT) VS. AREA
CHARACTERISTICS



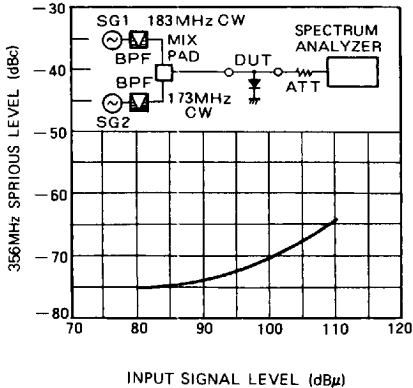
ALLOWABLE POWER DISSIPATION
VS. HEAT SINK TEMPERATURE
CHARACTERISTICS



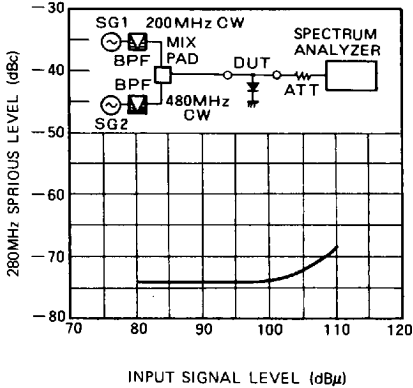
TRANSMITTER POWER VS.
AMBIENT TEMPERATURE
CHARACTERISTICS



INTER MODULATION
DISTORTION



INTER MODULATION
DISTORTION



INTER MODULATION
DISTORTION

