

DESCRIPTION

The MI303 PIN diode is employing high reliability glass construction, designed for solid state antenna switches in commercial two-way radios.

FEATURES

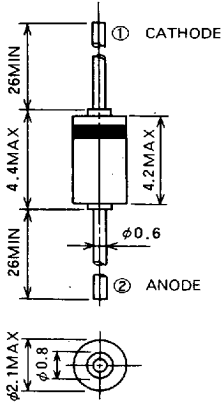
- Low insertion loss
- High isolation
- Small glass construction

APPLICATION

Antenna switching

OUTLINE DRAWING

Dimension: mm



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

Symbol	Parameter	Ratings	Unit
V_{RM}	Repetitive peak reverse voltage	180	V
I_{FSM} *	Forward surge current	2	A
P	Power dissipation	500	mW
T_j	Junction temperature	175	$^{\circ}\text{C}$
T_{stg}	Storage temperature	-55 to 175	$^{\circ}\text{C}$

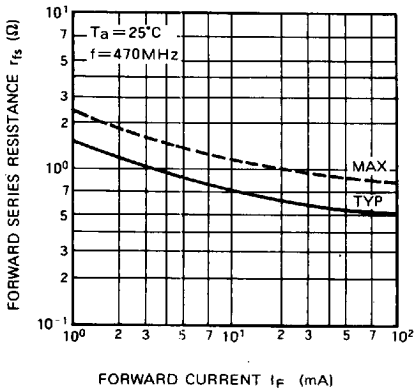
* : $t=5\text{sec}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

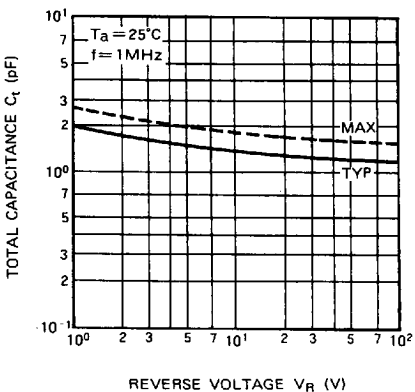
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I_{R1}	Reverse current	$V_R=180\text{V}$			10	μA
I_{R2}	Reverse current	$V_R=140\text{V}$			150	nA
I_F	Forward current	$V_F=1.0\text{V}$	200			mA
C_t	Diode capacitance	$V_R=0\text{V}$, $f=1\text{MHz}$			4.0	pF
r_{fs}	Forward series resistance	$I_F=20\text{mA}$, $f=470\text{MHz}$			1.0	Ω
f_c	Cut-off frequency	$V_R=3\text{V}$, $f=50\text{MHz}$	800			MHz

TYPICAL PERFORMANCE DATA

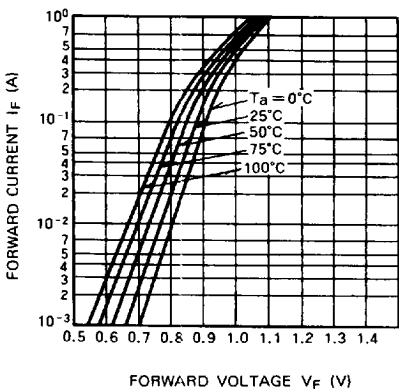
**FORWARD SERIES RESISTANCE VS.
FORWARD CURRENT CHARACTERISTICS**



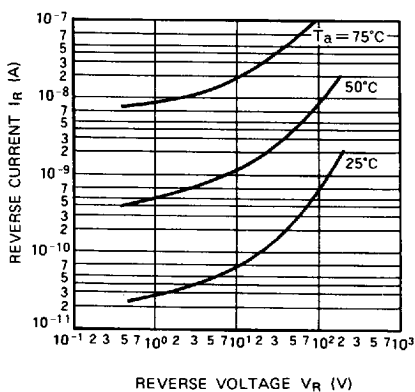
**TOTAL CAPACITANCE VS.
REVERSE VOLTAGE CHARACTERISTICS**



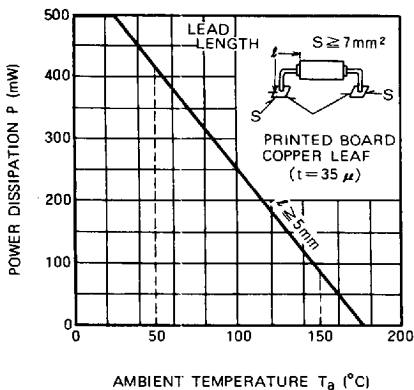
**FORWARD CURRENT VS.
FORWARD VOLTAGE CHARACTERISTICS**



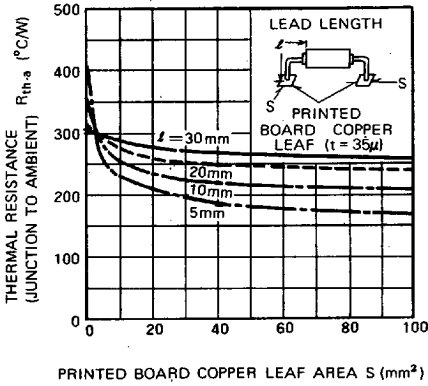
**REVERSE CURRENT VS.
REVERSE VOLTAGE CHARACTERISTICS**



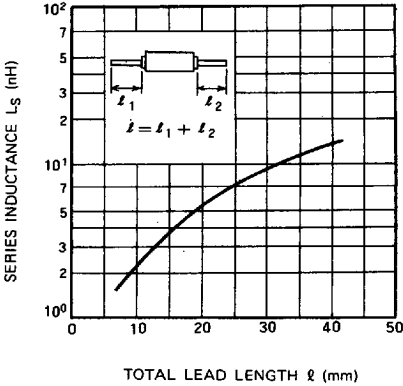
**POWER DISSIPATION VS.
AMBIENT TEMPERATURE
CHARACTERISTICS**



THERMAL RESISTANCE (JUNCTION TO AMBIENT) VS. PRINTED BOARD COPPER LEAF AREA CHARACTERISTICS

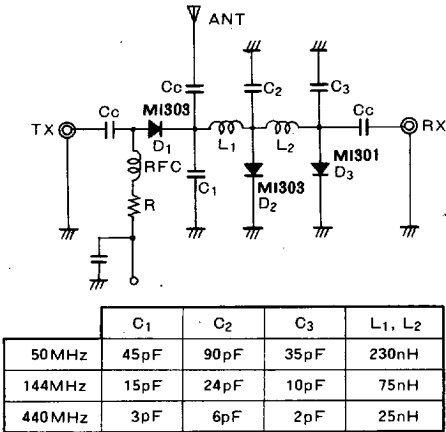


SERIES INDUCTANCE VS. TOTAL LEAD LENGTH CHARACTERISTICS



APPLICATION

SINGLE POLE DOUBLE THROW SWITCHING CIRCUIT (λ/4 TYPE)



TYPICAL DATA

f	Isolation TX→RX	Insertion Loss TX→ANT
50MHz	33dB	0.3dB
144MHz	33dB	0.3dB
440MHz	30dB	0.5dB

Handling Power 10W
Bias Current 20mA DC
2nd Harmonic >80dBc