

DESCRIPTION

With high isolation, low loss, and low distortion characteristics, this Microsemi ceramic package PIN diode is perfect for two-way radio antenna switch applications where size and power handling capability are critical. The surface mount package is ideal for high volume automated assembly applications.

Its advantages also include the low forward bias resistance and high zero bias impedance that are essential for low loss, high isolation, and wide bandwidth antenna switch performance. Its square design makes this device ideal for use with automatic insertion equipment.

IMPORTANT:

For the most current data, consult our website: www.MICROSEMI.com

ABSOLUTE MAXIMUM RATINGS AT 25° C (UNLESS OTHERWISE SPECIFIED)

Parameter	Symbol	Limits	Units
Maximum Reverse Voltage	V_R	50	V
Average Power Dissipation	P_D	4	W
Storage Temperature Range	T_{STG}	-65 to 175	°C
Operating Temperature Range	T_{OP}	- 65 to 175	°C
Thermal resistance. (25 °C contacts, free	R_θ	37.5	°C/W



KEY FEATURES

- High Power Surface Mount Package.
- Specified low distortion, low loss.
- Low bias current requirements.
- High zero bias impedance.
- Low inductance and capacitance.
- Compatible with automatic insertion equipment.
- RoHS compliant packaging Available¹

APPLICATIONS/BENEFITS

- Low Loss T/R Switching.
- Two Way Radio Antenna Switching.
- Available on Tape&Reel

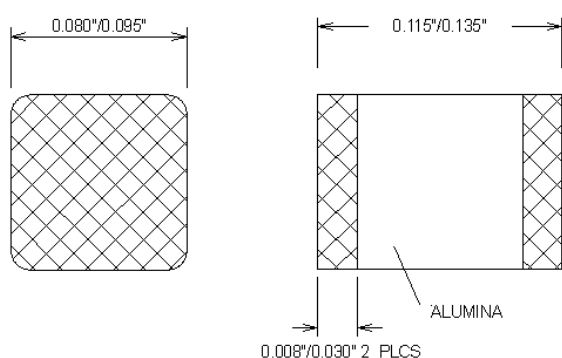
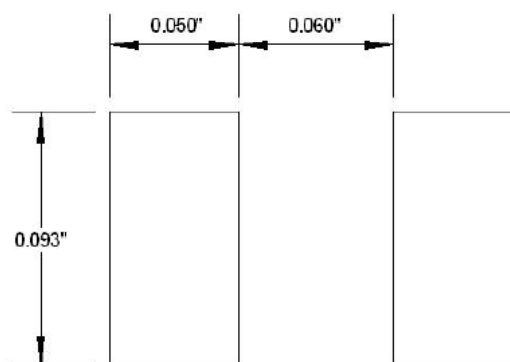
¹ The UX9401F is supplied with a RoHS compliant matte tin finish.

Consult factory for details.



ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYPICAL	MAX	Units
Total Capacitance	C_T	$V_R = 50V$, $F = 1\text{ MHz}$		0.75	0.9	pF
Series Resistance	R_S	$I_F = 50\text{ mA}$, $F = 100\text{ MHz}$		0.5	0.75	Ohms
Parallel Resistance	R_P	$f = 100\text{ MHz}$, $V_r = 0V$	5	10		kOhms
Carrier Lifetime	T_L	$I_F = 10\text{ mA}$	2	4		μs
Reverse Current	I_R	$V_R = 50$			10	μA
Forward Voltage	V_F	$I_F = 100\text{ mA}$			1.0	V
Transmit Harmonic Distortion		$P_{IN} = 50\text{ W}$ $F = 50\text{ MHz}$ $I_F = 50\text{ mA}$	80			-dB
Receive 3rd Order Harmonic Distortion		$F = 100\text{ MHz}$ $V = 0\text{ V}$ $F_A = 50\text{ MHz}$ $F_B = 51\text{ MHz}$	60			-dB

PACKAGE STYLE 'F'

FOOTPRINT

NOTES:

- These dimensions will match the terminals and provide for additional solder fillets at the outboard ends at least as wide as the terminals themselves, assuming accuracy of placement within 0.005"
- If the mounting method chosen requires use of an adhesive separate from the solder compound, a round (or square) spot of cement should be centrally located.



Microsemi[®]

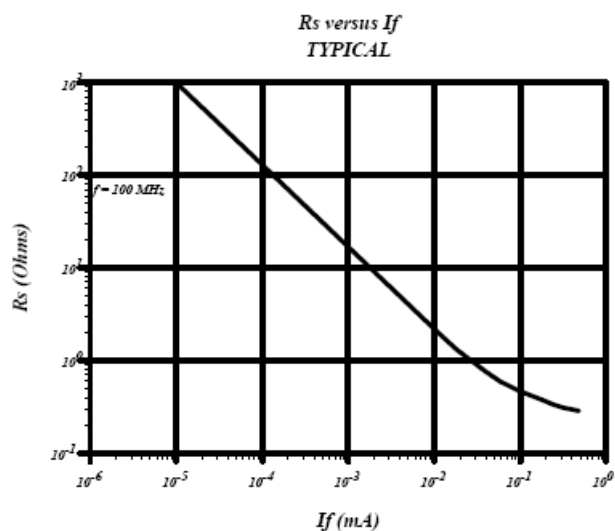
UM9401F

PIN DIODE
SWITCHING DIODE-Ceramic Surface Mount

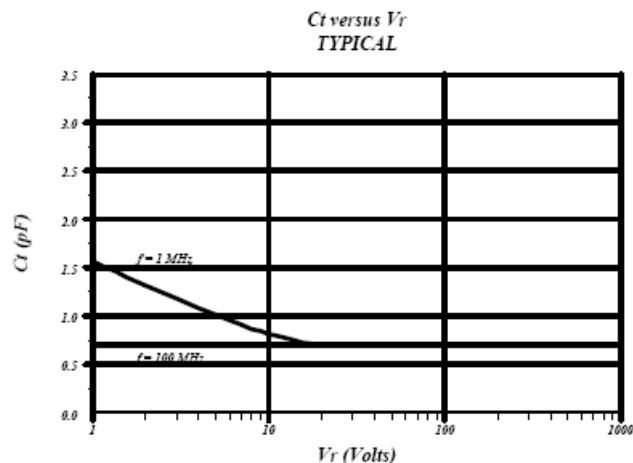
RoHS Compliant Version Available



TYPICAL R_s VS I_f



TYPICAL C_t VS V_r



IF CURVE

