

**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](http://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	$R_{\theta}$	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 Available<sup>1</sup>

**APPLICATIONS/BENEFITS**

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

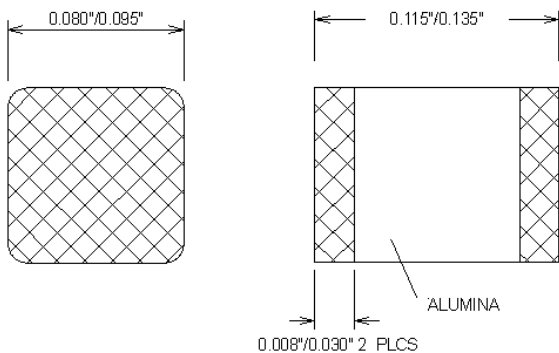
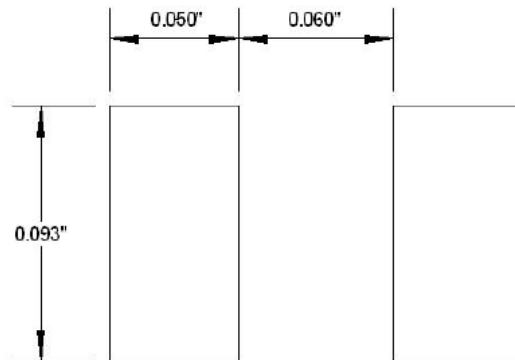
<sup>1</sup> The UX9401F is supplied with a RoHS compliant matte tin finish.

Consult factory for details.

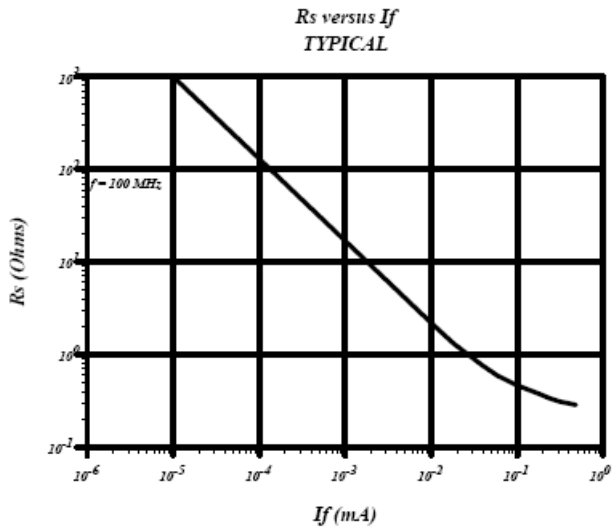
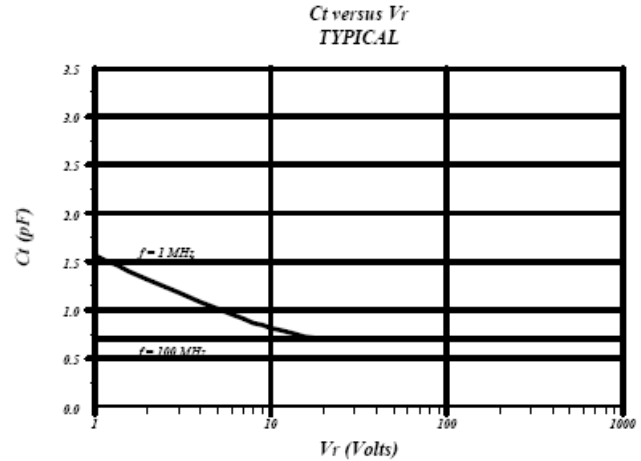


**ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)**

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		$\mu\text{s}$
Reverse Current	$I_R$	$V_R = 50$			10	$\mu\text{A}$
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:**

1. 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"
2. 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.

**TYPICAL  $R_s$  VS  $I_f$** 

**TYPICAL  $C_t$  VS  $V_r$** 

**IF CURVE**
