

HIGH POWER PIN DIODES

**RoHS Compliant Versions Available** 



#### DESCRIPTION

The UM7000 and UM7100 series offer moderately high power handling in combination with reasonably low levels of both series resistance and capacitance. The UM7200 series offers the lowest series resistance, but the highest capacitance of the group. The differences in specified performance for each of the series, results from different I-region thickness. The three series have broad applicability in many RF and microwave switch and attenuator circuits. Additionally, the UM7100 in leaded versions is usually the most cost-effective diode choice in high volume usage.

#### IMPORTANT:

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

#### ABSOLUTE MAXIMUM RATINGS AT 25° C (UNLESS OTHERWISE SPECIFIED) (P<sub>D</sub>) Power (Θ)Thermal **Package Conditions** Dissapation Resistance (°C/W) (W) 25 <sup>O</sup>C Pin Temperature 10 15V Α В 5.5 27.5 ½ in. total length to 25 OC Contact Free Air Е 1.5 С 25 °C Stud Temperature 10 15 D 25 °C Stud Temperature 7.5 20 SM 25 °C End Cap Temperature 8 17 60 kW 35 kW ALL 1 us pulse (Single) 100KW 20 kW -65 $^{\circ}$ C to + 175 $^{\circ}$ C ALL Storage Temperature (TOP) -65 $^{\circ}$ C to + 175 $^{\circ}$ C ALL Operating Temperature (T<sub>OP</sub>)

#### KEY FEATURES

- Voltage ratings to 1000V (UM7000)
- Average power dissipation to 10 W
- Series resistance as low as 0.25 Ω
- Carrier lifetime greater than 2.5 µs
- Low capacitance
- Low conductance (High R<sub>P</sub>)
- Compatible with automated assembly
- RoHS compliant packaging Available<sup>1</sup> (Use UMX7202B, etc.)

<sup>1</sup> The UM7000 series of products can be supplied with a RoHS compliant finish (UMX7000) or with a 90/10 Sn/Pb finish. Stud Packages C/CR/D/DR are supplied with a RoHS complaint Gold finish Consult factory for details.







#### APPLICATIONS/BENEFITS

- Isolated stud package available
- Surface mount package available
- Soldering temperature: 260 °C for 10 seconds maximum





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VOLTAGE RATINGS @ 25°C (unless otherwise specified)									
F	Part Numbe	r	Reverse Voltage @ 10uA (V)						
UM7001	UM7101	UM7201	100						
UM7002	UM7102	UM7202	200						
-	UM7104	UM7204	400						
UM7006	-	ı	600						
-	UM7108	ı	800						
UM7010	-	-	1000						

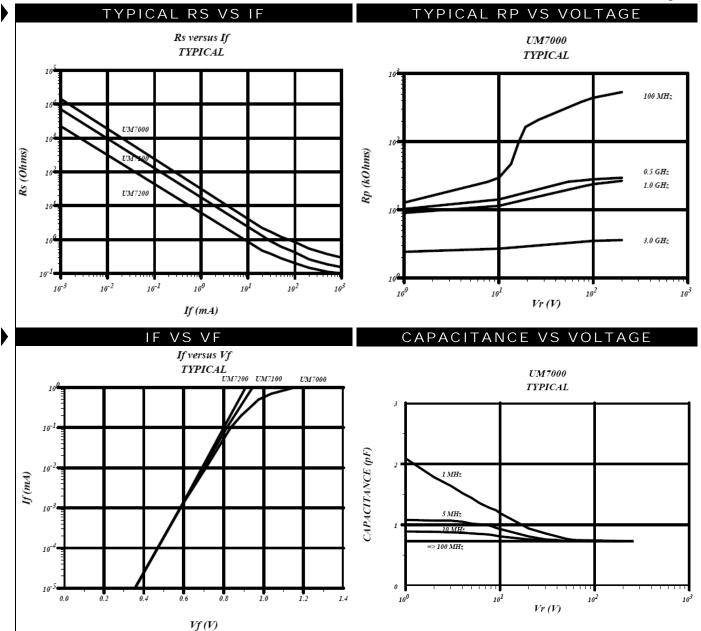
ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)								
Parameter	Symbol	Conditions	UM7000	UM7100	UM7200	Units		
Reverse Current (Max)	$I_R$	At rated voltage	10	10	10	uA		
Series Resistance(Max)	$R_S$	I <sub>F</sub> = 100 mA, F= 100 MHz	1.0	0.6	0.25	Ohm		
Capacitance (Max)	Ст	V <sub>R</sub> = 100 V, F = 1 MHz	0.9	1.2	2.2	pF		
Parallel Resistance(Min)	$R_P$	V <sub>R</sub> = 100 V, F = 100 MHz	200k	150k	70k	Ohms		
Carrier Lifetime(Min)	TL	I <sub>F</sub> = 10 mA	2.5	2.0	1.5	uS		
I-Region Width (Min)	W	-	150	80	40	um		

See following pages for performance graphs and mechanical data.



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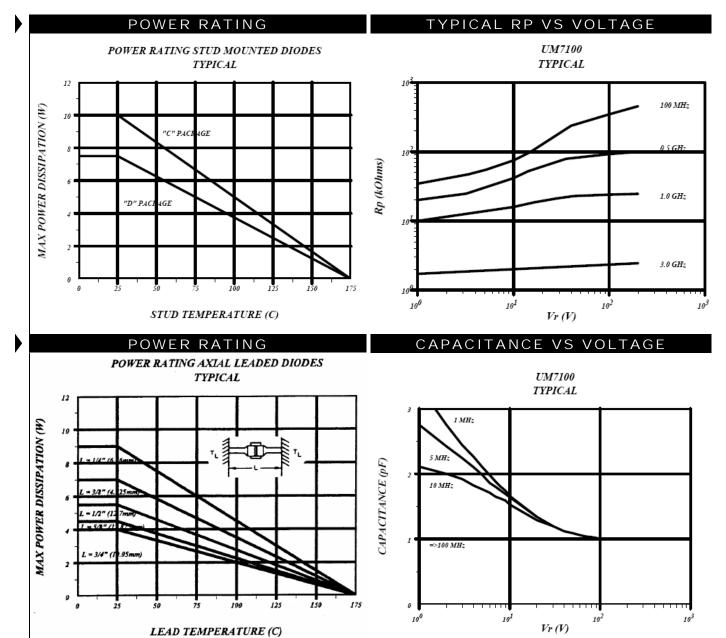






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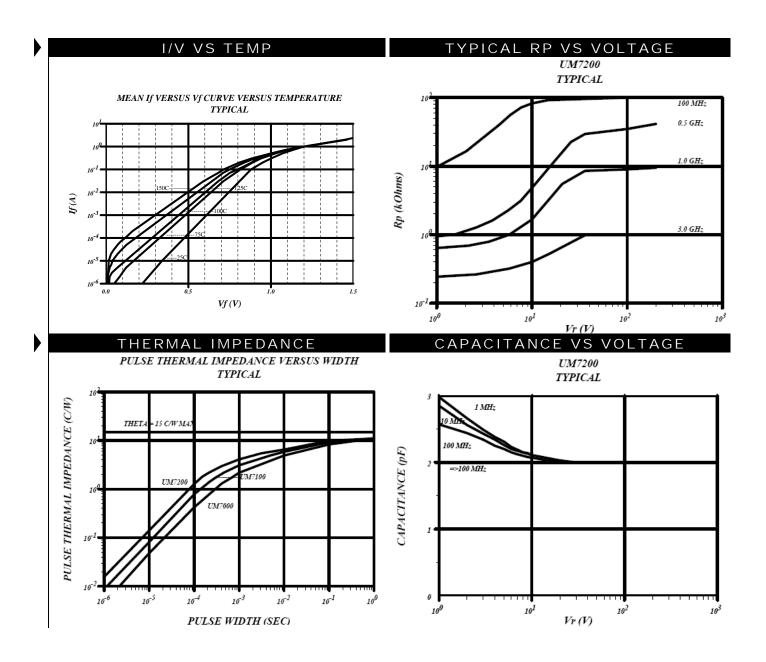






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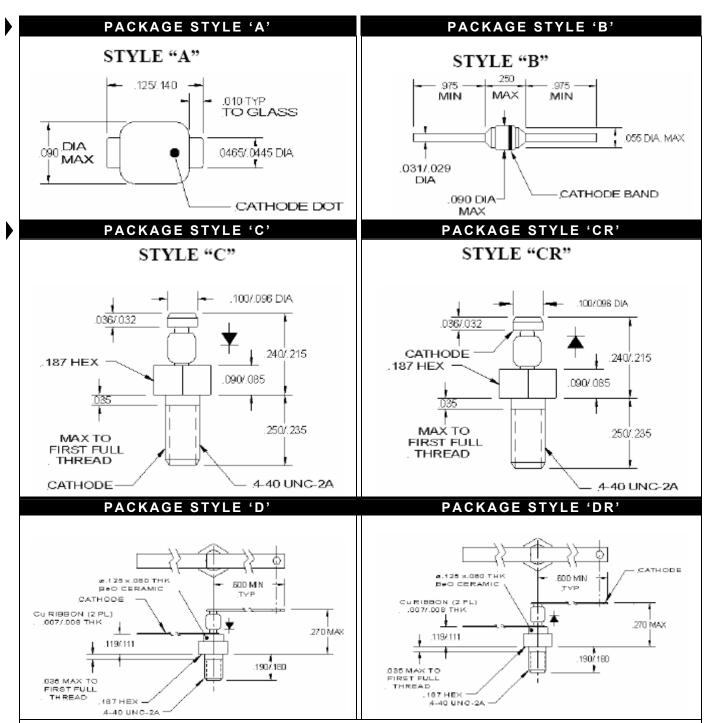






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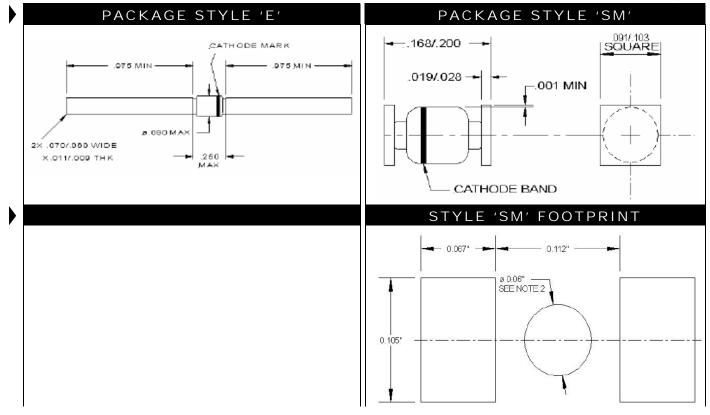




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#### NOTES:

- 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"
- 2 If the mounting method chosen requires use of an adhesive separate from the solder compound, a round (or square) spot of cement as shown should be centrally located.

Microsemi