

DESCRIPTION

The UM9995 was developed for switching applications in MRI systems that require an ultra low magnetic image. The UM9995 is also excellent for shunt mount applications with good switch performance from VHF and higher. The selection of the proper materials for the package insures the minimum magnetic image required for MRI applications. The performance is achieved using discrete low inductance PIN diodes assembled with special hardware to permit good electrical and mechanical properties

The Microsemi UM9995 PIN diode is constructed using a fused-in-glass process, which results in a highly reliable, hermetic package. The process utilizes symmetrical, full faced metallurgical bonds to both surfaces of the silicon chip. This construction greatly minimizes the normal parasite inductance and capacitance found in conventional glass or ceramic packaged diodes, which employ straps, springs, or washers.

IMPORTANT:

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

KEY FEATURES

- Ultra low magnetic construction
- High Zero Bias Impedance
- Very Low Inductance and Capacitance.
- High Power Capability
- No Internal Lead Straps
- Low Bias Current
- Thermally Matched Assembly
- Available in Surface and Shunt Mount Packages
- RoHS Compliant Versions Available¹

APPLICATIONS/BENEFITS

- MRI Switching Applications.
- Ultra Low Magnetic Design
- FOR High Tesla MRI Systems



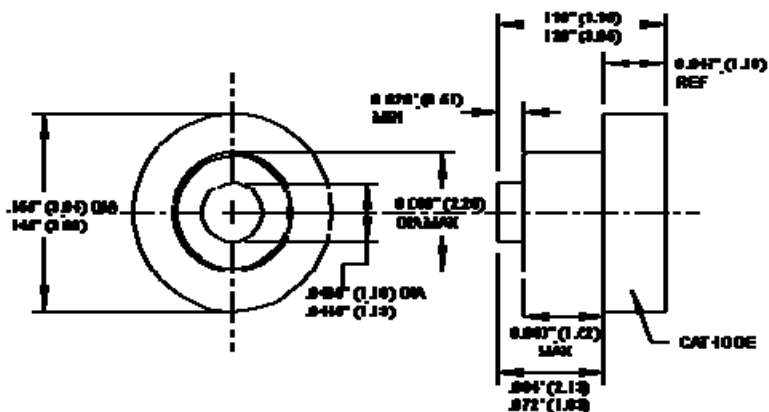
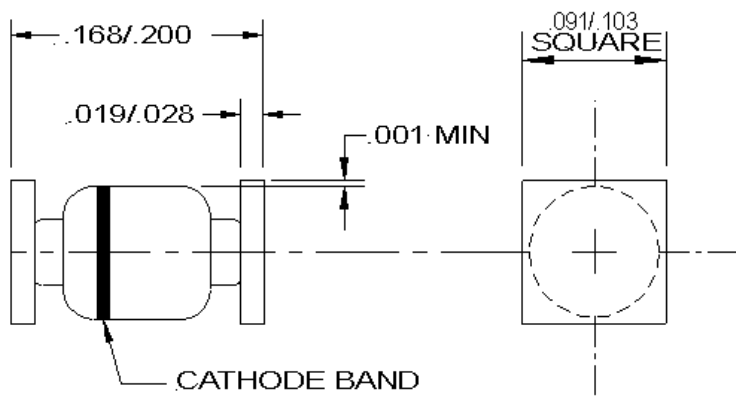
This is an actual Magnetic Image of the standard UM9601 and the specially constructed UM9995 PIN diode (in a 3T MRI system)

¹ The UM9995 can be supplied with a RoHS compliant finish. Order UMX9995. Consult factory for details.



ABSOLUTE MAXIMUM RATINGS AT 25° C (UNLESS OTHERWISE SPECIFIED)			
Parameter	Symbol	Limits	Units
Peak Power Handling (1uS Pulse Width)	P_{Peak}	10	kW
Storage Temperature Range	T_{STG}	-65 to + 150	°C
Operating Temperature Range	T_{OP}	-65 to + 150	°C
Power Handling	P_O	1.5	W
Thermal Resistance (Flange)	R_{θ}	20	°C/W

ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)						
Parameter	Symbol	Conditions	MIN.	TYPICAL	MAX.	Units
Series Resistance	R_S	$I = 100 \text{ mA}, F = 100 \text{ MHz}$		0.4	0.6	Ω
Total Capacitance	C_T	$V = 100V, F = 1MHz$			1.2	pF
Parallel Resistance	R_P	$V = 100 \text{ V}, F = 100 \text{ MHz}$	100			k Ω
Forward Voltage	V_F	$I_F = 100 \text{ mA}$		0.85		V
Carrier Lifetime	τ	$I_F = 10 \text{ mA}$	2.0			μs
I-Region Width	W		80			μm

STYLE "G"

STYLE "SM"


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NOTES
