



HUM2001 – HUM2020

PIN DIODE
High Power Stud

RoHS Compliant Versions Available



DESCRIPTION

With high isolation, low loss, and low distortion characteristics, this Microsemi Power PIN diode is perfect for the high power switching applications where size and power handling capability are critical.

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 performance.

Hermetically sealed, SOGO passivated PIN chips with full-faced metallurgical bonds on both sides are utilized to achieve high reliability and high surge capability.

IMPORTANT:

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

VOLTAGE RATINGS

@ 25°C (unless otherwise specified)

Part Number	Reverse Voltage @ 10uA (V)
HUM2001	100
HUM2005	500
HUM2010	1000
HUM2015	1500
HUM2020	2000

KEY FEATURES

- High Power Stud Mount Package.
- High Zero Bias Impedance
- Very Low Inductance and Capacitance.
- No Internal Lead Straps.
- Small Mechanical Outline.
- RoHS compliant packaging Available¹

APPLICATIONS/BENEFITS

- MRI Applications.
- High Power Antenna Switching.



¹ The HUM2000 series of products can be supplied with a RoHS compliant finish. Order HUMX2001 – HUMX2020. Consult factory for details.





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ELECTRICAL PARAMETERS @ 25°C (unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYPICAL	MAX.	Units
Total Capacitance	C_T	$V_R = 100V, F = 1 \text{ MHz}$		3.4	4.0	pF
Series Resistance	R_S	$I_F = 500 \text{ mA}, F = 4 \text{ MHz}$		0.1	0.2	Ohms
Carrier Lifetime	T_L	$I_F = 10 \text{ mA}/100 \text{ V}$	10	30		μs
Reverse Current	I_R	$V_R = \text{Voltage rating}$			10	μA
Parallel Resistance	R_P	$f = 10\text{MHz}, V_R = 100\text{V}$	200			kOhms
Forward Voltage	V_F	$I_F = 500\text{mA}$		0.85	1.0	V

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

Parameter	Symbol	Limits	Units
Average Power Dissipation	P_D	13	W
Non-Repetitive Sinusoidal Surge Current (8.3 ms)	I	100	A
Storage Temperature Range	T_{STG}	-65 to + 175	°C
Operating Temperature Range	T_{OP}	-65 to + 175	°C
Thermal resistance Junction-to Case "C" Stud Only	$R_{\theta JC}$	7.5	°C/W



Microsemi[®]

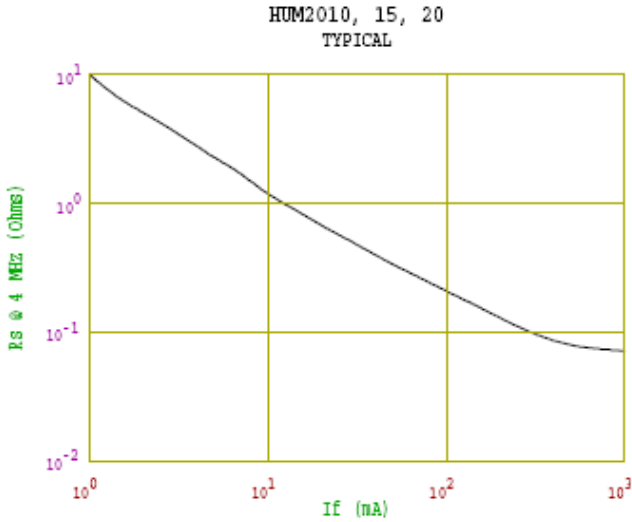
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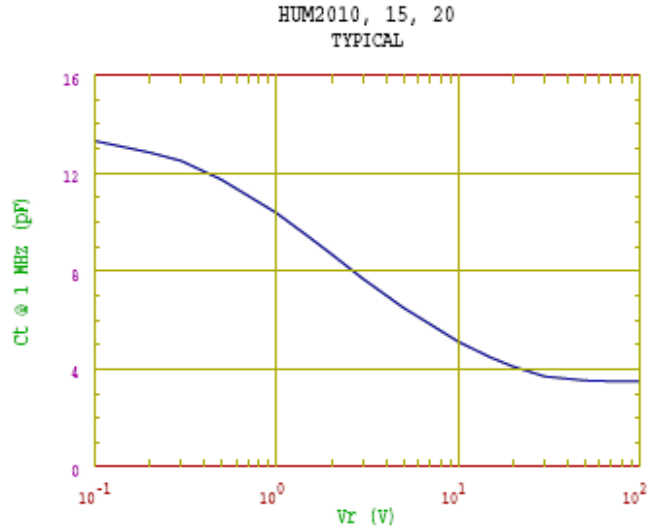
RoHS Compliant Versions Available



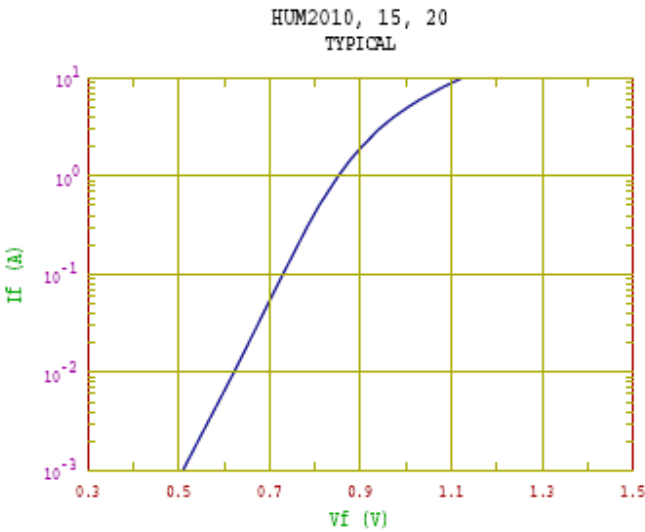
TYPICAL RS VS IF



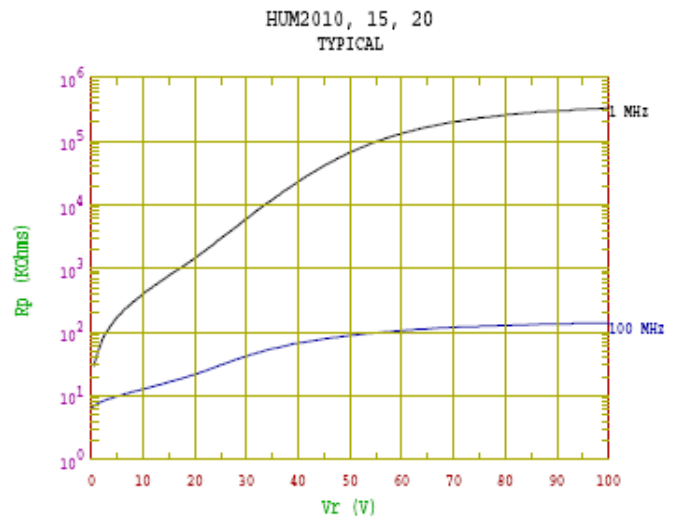
TYPICAL CT VS VR

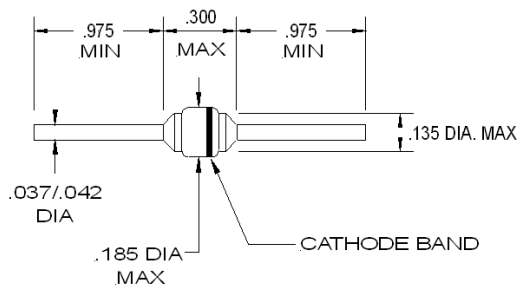
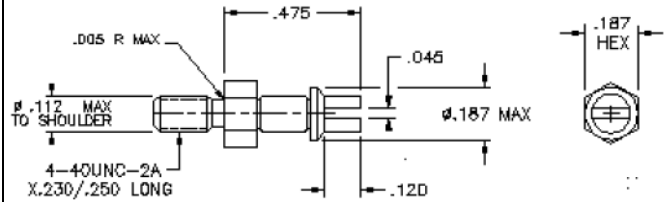


IF CURVE

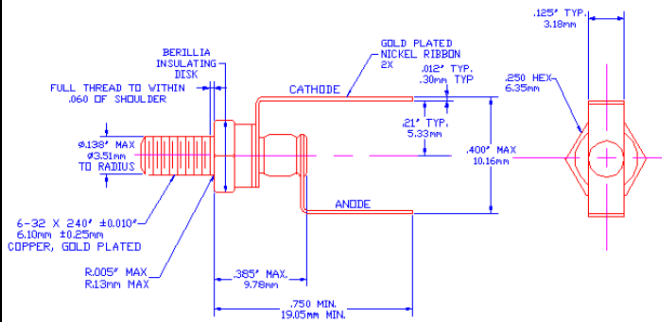
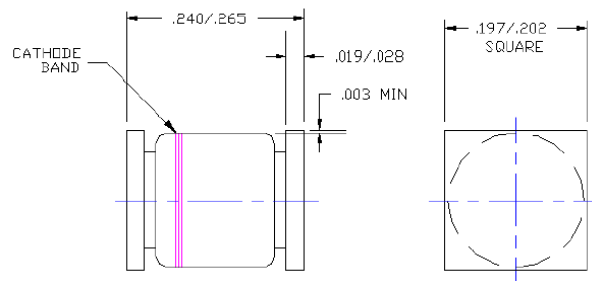


RP VS VOLTAGE



PACKAGE STYLE 'B'

PACKAGE STYLE 'C'
STYLE "C" STUD

NOTES:

1. CATHODE-TO-STUD IS THE STANDARD PART; REVERSE POLARITY IS DENOTED BY THE SUFFIX "R".
2. METAL PARTS ARE GOLD PLATED PER MIL-G-45204, TYPE II.
3. INSTALLATION PRECAUTIONS INCLUDE:
UN-LUBRICATED STUD TORQUE = 28 INCH OUNCES MAXIMUM.
DO NOT USE A SCREWDRIVER IN THE TURRET SLOT FOR ANY INSTALLATION PURPOSE * OR DAMAGE MAY RESULT*.
4. DIMENSIONS ARE IN INCHES.

PACKAGE STYLE 'D'
STYLE "D" INSULATED STUD

PACKAGE STYLE 'SM'
STYLE "SM" MELF

Ordering Information:
Add style letter to suffix for the desired package. IE: HUM2020D