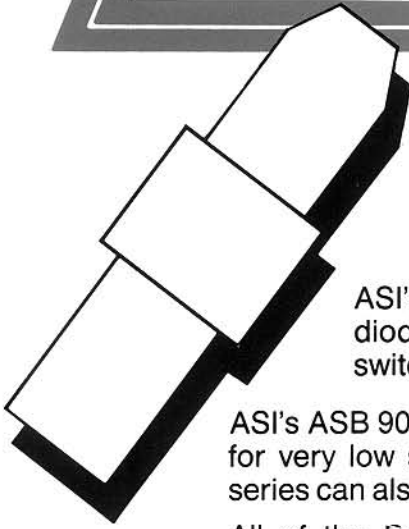


## BEAM LEAD PIN DIODES



ASI's ASB 7000 SERIES are Planar Beam Lead PIN Diodes for use as series diodes up to 18 GHz in broadband multi-throw switches, phase shifters, limiters, attenuators and modulators for microstrip and stripline applications. Features include low capacitance, low series resistance, fast switching and oxide passivation.

ASI's ASB 8000 SERIES are Mesa Beam Lead PIN Diodes for use as series diodes in the same applications as the ASB 7000 Series with the increased switching speed similar to PIN Chips.

ASI's ASB 9000 SERIES are Mesa Beam Lead PIN Diodes that have been designed for very low series resistance, low capacitance and very fast switching time. This series can also be used in the shunt configuration as well as the series configuration.

All of the Beam Lead PIN Diodes meet or exceed the Military Environmental Specifications of MIL-S-19500 and Methods from MILSTD-750 and/or customer specifications.

### ABSOLUTE MAXIMUM RATINGS:

Storage Temperature: -65°C to +175°C

Operation Temperature: -65°C to +150°C

Power Dissipation: 250 mW

Beam Terminal Strength: Planar- 4 grams minimum / Mesa- 6 grams minimum

### PLANAR BEAM LEAD PIN

TYPE NUMBER	V <sub>B</sub> <sup>1</sup> MIN (VOLTS)	SERIES <sup>2</sup> RESISTANCE R <sub>S</sub> MAX (OHMS)	JUNCTION <sup>3</sup> CAPACITANCE C <sub>J</sub> -50V, MAX (pF)	MINORITY <sup>4</sup> CARRIER LIFETIME T <sub>I</sub> , TYP (ns)	RF <sup>5</sup> SWITCHING TIME T <sub>S</sub> , TYP (ns)
ASB7000	100	4.0	0.020	100	25
ASB7001	100	3.5	0.030	100	25
ASB7002	100	4.0	0.040	100	25
ASB7003	100	3.0	0.060	100	25

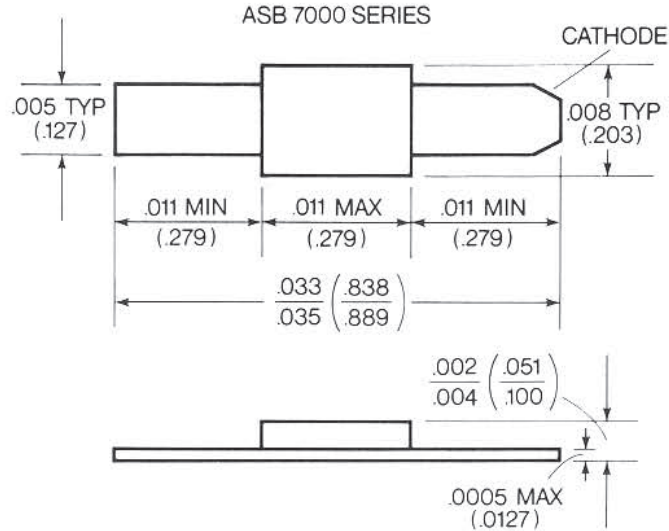
### MESA BEAM LEAD PIN

TYPE NUMBER	BREAKDOWN <sup>1</sup> VOLTAGE V <sub>B</sub> , MIN (VOLTS)	SERIES <sup>2</sup> RESISTANCE R <sub>S</sub> +50mA, MAX (OHMS)	JUNCTION <sup>3</sup> CAPACITANCE C <sub>J</sub> -50V, MAX (pF)	MINORITY <sup>4</sup> CARRIER LIFETIME T <sub>I</sub> , TYP (ns)	RF <sup>5</sup> SWITCHING TIME, T <sub>S</sub> (ns)
ASB8000	100	3.5	0.025	70	5ns OFF
ASB8001	100	3.0	0.030	70	5ns OFF
ASB8002	100	3.0	0.040	70	5ns OFF
ASB8003	100	2.5	0.060	70	5ns OFF

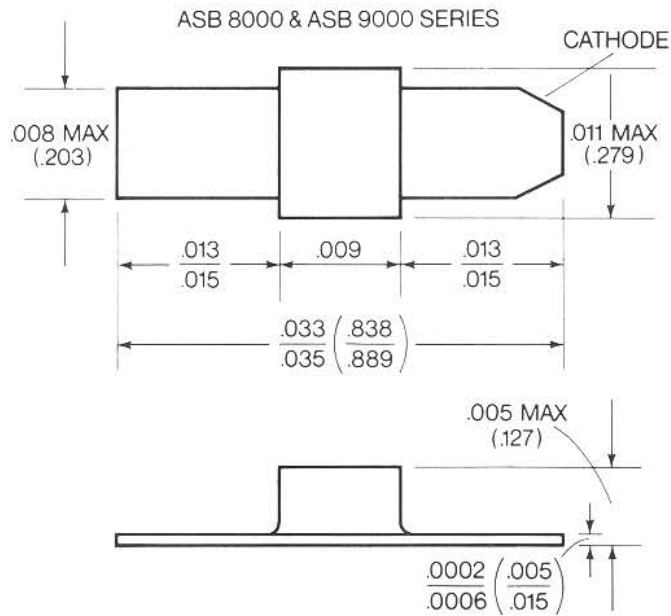
### HIGH SPEED MESA BEAM LEAD PIN

TYPE NUMBER	BREAKDOWN <sup>1</sup> VOLTAGE V <sub>B</sub> , MIN (VOLTS)	SERIES <sup>2</sup> RESISTANCE R <sub>S</sub> +50mA, MAX (OHMS)	JUNCTION <sup>3</sup> CAPACITANCE C <sub>J</sub> -10V, MAX (pF)	MINORITY <sup>4</sup> CARRIER LIFETIME T <sub>I</sub> , TYP (ns)	RF <sup>5</sup> SWITCHING TIME T <sub>S</sub> , TYP (ns)
ASB9000	50	1.8	0.07	50	3
ASB9001	40	1.2	0.12	40	3
ASB9002	30	1.0	0.15	25	2

## PLANAR BEAM LEAD PIN DIODES ASB7000 SERIES



## MESA BEAM LEAD PIN DIODES ASB8000 & ASB9000 SERIES



DIMENSIONS ABOVE ARE IN INCHES WITH MILLIMETERS IN PARENTHESES

### NOTES:

1. Breakdown Voltage is measured at  $10\mu\text{A}$ .
2. Series Resistance is calculated from insertion loss measurements at 3 GHz, 50mA.
3. Junction Capacitance is calculated from isolation measurements at 9 GHz.
4. Minority Carrier Lifetime is measured at  $I_F = 10\text{mA}$ ,  $I_R = 6\text{mA}$ .
5. RF Switching Time is measured from RF transmission, 90% to 10%, in series configuration

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