BROADBAND PIN DIODES

The ML 4660 and 4670 Series contain a passivated PIN diode chip mounted in shunt within a broadband hermetically sealed package that eliminates the reliability problems associated with devices using epoxy seals. These devices have low VSWR from 0.1 to 18GHz and feature low insertion loss at zero or reverse bias. This matched design eliminates the bandwidth limiting parasitics of conventional packages by incorporating the lead and chip as part of a 50 Ohm microwave circuit.

These PIN devices are intended for microstrip and stripline control circuits as well as for direct replacements for existing non-hermetic epoxy encapsulated devices. They can function as power switches, limiters, phase-shifters, attenuators, and duplexers. The package flexibility allows the use of high power, high voltage PIN chips that can switch up to 5kW peak RF power or thin PIN's that can switch in less than 10 nanoseconds.

SPECIFICATIONS @ +25°C

Type Number	Frequency Range (GHz)	Insertion Loss (dB)			Isolation (dB)	Switching Time (ns)	Breakdown Voltage (V)		Thermal Resistance (°C/W)		Heatsink Polarity	Case Styles
		Typ.	Max.	Min.	Typ.		Min.	Typ.	Typ.	Max.		
ML4660	0.1 - 18.0	1.0	1.5	20	25	1	15	25	80	100	Cathode	144,114,115,116
ML4661	0.1 - 12.0	0.5	0.7	20	25	2	40	60	60	80	Cathode	144,114,115,116
ML4662	0.1 - 12.0	0.5	0.7	20	25	2	40	60	40	60	Anode	144,114,115,116
ML4663	0.1 - 12.0	0.5	0.7	20	25	6	70	90	60	80	Cathode	144,114,115,116
ML4664	0.1 - 12.0	0.5	0.7	20	25	6	70	90	30	40	Anode	144,114,115,116
ML4665	0.1 - 12.0	0.5	0.7	20	25	12	100	120	30	40	Cathode	144,114,115,116
ML4666	0.1 - 12.0	0.5	0.7	20	25	12	100	120	20	30	Anode	144,114,115,116
ML4667	0.1 - 12.0	0.5	0.7	20	25	25	150	180	30	40	Cathode	144,114,115,116
ML4668	0.1 - 12.0	0.5	0.7	20	25	25	150	180	15	25	Anode	144,114,115,116
ML4669	0.1 - 12.0	0.7	1.0	20	25	40	200	250	25	35	Cathode	144,114,115,116
ML4670	0.1 - 12.0	0.7	1.0	20	25	40	200	250	15	25	Anode	144,114,115,116
ML4671	0.1 - 12.0	0.7	1.0	20	25	50	300	250	25	30	Cathode	144,114,115,116
ML4672	0.1 - 12.0	0.7	1.0	20	25	100	400	450	20	25	Cathode	144,114,115,116
ML4673	0.1 - 12.0	0.7	1.0	20	25	100	500	550	20	25	Cathode	144,114,115,116
ML4674	0.1 - 12.0	0.7	1.0	20	25	150	600	650	15	25	Cathode	144,114,115,116

NOTES

1. Breakdown Voltage measured at I_R = 10uA.
2. Switching time is 10% to 90% detected RF as measured with standard M/A-COM LTD driver.
3. Alternative case styles available on request.
4. Storage/Operating Temperature -65°C to +150°C
5. Maximum Power Dissipation = $\frac{150°C - T_{AMBIENT}}{\text{Thermal Resistance}}$

TYPICAL PERFORMANCE