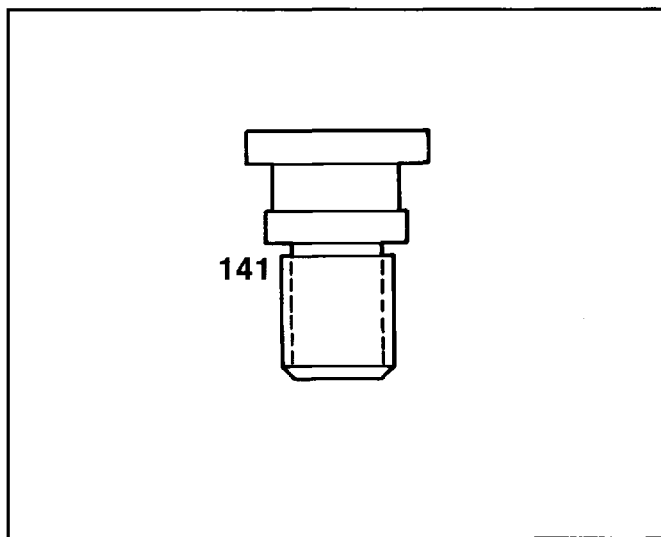


MA44950 Series

Silicon Multichip Pulsed Multiplier Varactors



Description

The MA44950 series of pulsed multiplier diodes is useful for higher peak power, low order multipliers used in solid state transmitters of marine, weather or aircraft radars. These devices will provide 50-150 watts output with a pulse length of 10 to 40 microseconds and a PPF of .001.

The MA44950 series consists of multiple snap junctions mounted in case style 141, a ceramic package. Diodes with breakdown voltages up to 400 volts are available.

Features

- PEAK OUTPUT POWER TO 150 WATTS
- SIMPLE CIRCUITS
- PARTS CAN BE SCREENED TO MILITARY SPECIFICATIONS OR JANTX, TXV EQUIVALENT
- MULTIPLIER EFFICIENCY 30-50% IN DOUBLERS

Applications

The MA44950 series of multiple varactors is an excellent pulsed source for radar transponders, low power airborne weather radar and beacons requiring a high reliability pulsed transmitter with 50-150 watts peak power.

Specifications $T_A = 25^\circ\text{C}$

Model ¹ Number	Minimum ² Breakdown Voltage (Vb) (Volts)	Total ³ Capacitance Ct ² Range (pF)	Maximum ⁴ Leakage Current (na)	Nominal Characteristics		
				Output Frequency Range (GHz)	X2 Efficiency (%)	Peak ⁵ Power Output (Watts)
MA44951	400	6.0-7.0	20	1-2	50	175
MA44952	400	5.0-6.0	20	2-3	50	150
MA44953	400	4.0-5.0	20	3-4	48	125
MA44954	400	3.0-4.0	20	4-5	44	100
MA44955	300	2.5-3.0	20	5-6	40	80
MA44956	300	2.2-2.8	20	6-7	39	60
MA44957	300	2.0-2.5	20	7-8	38	50
MA44958	300	1.5-2.0	20	8-9	35	45
MA44959	300	1.0-1.5	20	9-10	30	40

NOTES:

1. The standard case style is 141, a metal ceramic package with a threaded stud.
2. Reverse current is 10 microamperes maximum at the rated voltage.
3. Capacitance is measured at a reverse bias voltage of 200 volts and at a frequency of 1 MHz.
4. Leakage current is measured at a reverse bias voltage of 200 volts.
5. Pulse length is between 10 and 40 microseconds with a duty cycle of .2%.

MAXIMUM RATINGS

Reverse Voltage Same as rated breakdown (Vb)

Operating Temperature - 65°C to + 150°C

Storage Temperature - 65°C to + 150°C

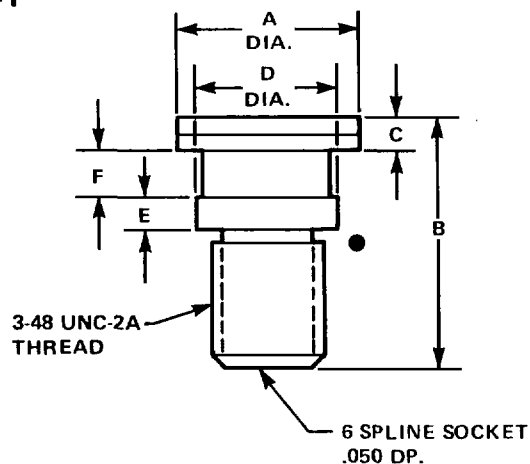
ENVIRONMENTAL PERFORMANCE

All varactors in the the MA44950 series are capable of meeting the tests dictated by the methods and procedures of the latest revisions of MIL-S-19500, MIL-STD-202 and MIL-STD-750 which specify mechanical, electrical, thermal and other environmental tests common to semiconductor products.

Case Style

● DENOTES CATHODE NOT TO SCALE

141



DIM.	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	0.155	0.165	3,94	4,19
B	0.205	0.225	5,21	5,72
C	— —	0.030	— —	0,76
D	0.120	0.130	3,05	3,30
E	— —	0.030	— —	0,76
F	0.045 REF.		1,15 REF.	

Ordering Information

Orders for products from M/A-COM Semiconductor Products Operation should be placed with our local sales office. Should there be a need for factory sales or applications engineering assistance, contact M/A-COM directly.