HEWLETT PACKARD

Step Recovery Diode Chips

Technical Data

5082-0008
5082-0015
5082-0017
5082-0018
5082-0020
5082-0032

Features

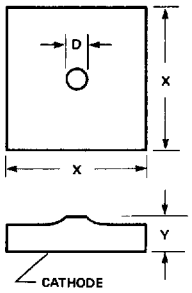
- **Optimized for Both Low and High Order Multiplier Designs from UHF through Ku Band**
- **Passivated Chip for Maximum Stability and Reliability**
- **Gold Top Contact for Long Shelf Life and Bondability**

Description

These diodes are manufactured using modern epitaxial growth techniques. The diodes are passivated with a thermal oxide for maximum stability. The result is a family of devices offering highly repeatable, efficient and reliable performance. Both the anode and cathode contact metallizations are gold allowing long shelf life and repeatable bondability. These diodes are designed to meet the general requirements of MIL-S-19500.

Applications

These Step Recovery Diodes are intended for medium and low power multipliers. Typical applications are in hybrid local oscillators, especially where low phase noise is required, in terrestrial communications, satellite communications, TVRO, mobile communications and test equipment. Input frequencies extend down to 10 MHz with output frequencies through 40 GHz.



Outline 01B

Dimension	5082-							
	0020	0008	0015	0017	0018	0021	0032	0090
D	0 13 (5)	0 06 (2 5)	0 15 (6)	0 39 (15 5)	0 05 (2)	0 22 (8 5)	0 32 (12 5)	0 15 (6)
X	0 38 (15)	0 38 (15)	0 38 (15)	0 64 (25)	0 38 (15)	0 51 (20)	0 51 (20)	0 38 (15)
Y	0 11 (4 5)	0 11 (4 5)	0 11 (4 5)	0 11 (4 5)	0 11 (4 5)	0 11 (4 5)	0 11 (4 5)	0 11 (4 5)

DIMENSIONS IN MILLIMETERS (1/1000 inch)

Maximum Ratings

Junction Operating and Storage Temperature Range ..... -60°C to +200°C
Maximum Die Attach Temperature ..... +310°C for 1 minute

Electrical Specifications at T_A = 25°C

Part Number 5082-	Minimum Breakdown Voltage V_{BR} (V)[1]	Typical Chip Capacitance C_j (pF)[2]	Typical Lifetime τ (ns)[3]	Typical Transition Time		Nearest Equivalent Packaged Part No. 5082-
				Transition Time t_t (ps)	Charge Level (pc)	
0008	15	0.38	20	60	100	0835
0018	25	0.5	20	70	200	0253
0020	25	0.8	20	60	300	0830
0015	35	1.2	60	150	1000	0132
0032	50	4.0	150	250	1500	0241
0017	75	4.0	300	300	2400	0300

Notes:
1. Minimum Breakdown Voltage test condition is I_R = 10 μA.
2. Capacitance sample test condition is V_R = 10 V and f = 1 MHz.
3. Lifetime sample test condition is I_F = 10 mA and I_R = 6 mA.