PIN Diodes

Reliability Data

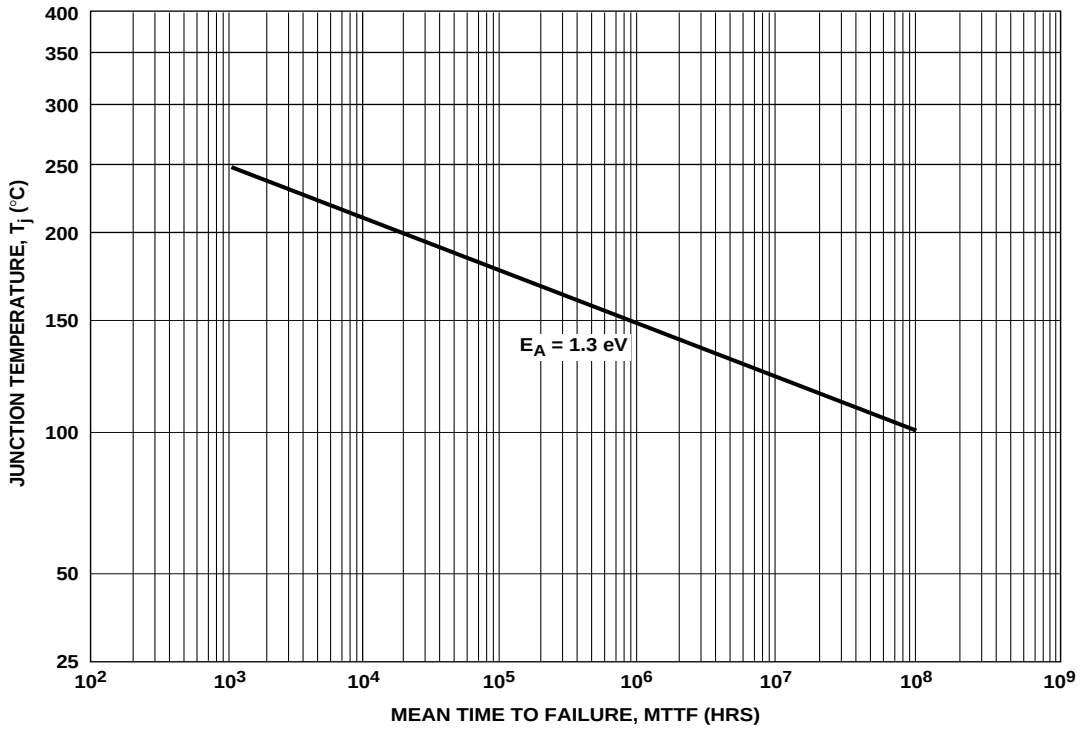
1N5767
5082-3080
5082-3188

Description

For applications requiring component reliability estimation, Hewlett-Packard provides reliability data for all families of devices. Data is initially compiled from reliability tests run prior to market introduction to demonstrate that a product meets design criteria. Additional tests are run periodically. The data on this sheet represents the latest review of accumulated test results.

Applications

This information represents the capabilities of the generic device. Failure rates and MTTF values presented here are achievable with normal MIL-S-19500 TX level screening. This reliability screening is no longer available from Hewlett-Packard. The screening tests, references, conditions, lot sizes, and LTPD are provided as references only.



Mean Time to Failure vs. Junction Temperature

Burn-In and Storage

Test	Test Conditions	LTPD/ 1000 Hours
High Temperature Life	1,000 hrs. min. storage time @ 150°C	3
Steady State Operating Life	1,000 hrs. min. operating time @ P_{FM} = 250 mW, V_{RM} = 20 V, f = 60 Hz, T_A = 25°C	3

Environmental

Test	MIL-STD-750	Tests Conditions	LTPD
Solderability	2026	Sn 95, Pb 5, solder at 260°C	10
Temperature Cycling	1051	100 cycles from -65°C to +150°C, 0.5 hrs. at extremes, 5 min. transfer.	7
Thermal Shock	1056	5 cycles from 0°C to +100°C, 3 sec. transfer	7
Moisture Resistance	1021	10 days, 90-98% RH, -10 to +65°C, non operating	7
Shock	2026	5 blows each X_1, Y_1, Y_2, 1500 G. 0.5 msec pulse	7
Vibration Fatigue	2046	32 ± 8 hrs., each X, Y, Z, 96 hr. total, 60 Hz, 20 G min.	7
Vibration Variable Frequency	2056	4, 4 minute cycles each X, Y, Z at 20 G min. 100 to 2000 Hz	7
Constant Acceleration	2006	1 minute each X_1, Y_1, Y_2, at 20,000 G	7
Terminal Strength	2036	Miniature glass package, -3, 90° arcs, 2 leads, 8 oz., lead restriction	7
Salt Atmosphere	1041	35° fog for 24 hours	7

DOD-HDBK-1686 ESD Classification:

IN5767	Class II
5082-3080	Class II
5082-3188	Class I