

17.3 mm (0.68 inch) General Purpose 5 X 7 Dot Matrix Alphanumeric Displays

Reliability Data

HDSP-70xE, -70xG, -70xA
HDSP-71xE, -71xG, -71xA

Description

The following cumulative test results have been obtained from testing performed at Agilent Technologies Optoelectronics Division in accordance with the latest revision of MIL-STD-883.

Agilent tests parts at or beyond the absolute maximum rated conditions recommended for the device. The actual performance you obtain from Agilent parts depends on the electrical and environmental characteristics of

your application but will probably be better than the performance outlined in Table 1.

**Table 1. Life Tests
Demonstrated Performance**

Stress Test	Stress Test Conditions	Colors	Total Device Hours	Units Tested	Units Failed
High Temperature Operating Life	T _A = 55°C				
	I _F = 19 mA	High Efficiency Red	5000	10	0
	I _F = 20 mA	Green	3528	21	0
	I _F = 16 mA	AlGaAs	5000	10	0
Wet High Temperature Operating Life	T _A = 85°C R.H. = 85%				
	I _F = 13 mA	High Efficiency Red	1680	10	0
	I _F = 15 mA	Green	3528	21	0
	I _F = 7 mA	AlGaAs	5000	10	0
Wet High Temperature Reverse Bias Operating Life	T _A = 85°C R.H. = 85% 5 V RB	High Efficiency Red	5000	10	0
		Green	3528	21	0
		AlGaAs	5000	10	0
Low Temperature Operating Life	T _A = -40°C				
	I _F = 25 mA	High Efficiency Red	5000	10	0
	I _F = 25 mA	Green	3528	21	0
	I _F = 25 mA	AlGaAs	5000	10	0
Room Temperature Operating Life	T _A = 25°C				
	I _F = 25 mA	High Efficiency Red	5000	10	0
	I _F = 25 mA	Green	3528	21	0
	I _F = 25 mA	AlGaAs	5000	10	0

Table 2. Environmental Tests

Test Name	Reference	Test Conditions	Units Tested	Units Failed
Solder Heat Resistance	HP Internal Test - COQ	Solder wave at 250°C for total of 5 seconds + 5 Temperature Cycles per MIL-STD-883 Method 1010.	2700	0 ppm
Temperature Cycle	MIL-STD-883 Method 1010	-25°C to +85°C, 15 min. dwell,		
		5 min. transfer, 20 cycles	1700	0
		50 cycles	1700	0
Humidity Storage	JIS C 7021 Method B-11	85°C, 85% RH, 168 Hours	84	0
Solderability	MIL-STD-883 Method 2003	16 hours steam aging followed by solder dip at 260°C for 5 seconds.	40	0