

EX Certification & Qualification Plans

EX Certification		
Certification	100% Testing	
MIL-PRF-19500P Appendix E		
Table E-IV - Screening Requirements		
Test	Sample Size	MIL-STD-750 Method
1a) Die visual For Glass Diodes 1b) Internal visual		
2) High Temperature Life Nonoperating Life	Optional	1032
3a) Temperature Cycling	100%	1051
3b) Surge (as specified)		
3c) Thermal Impedance (as specified)	100%	
4) Constant Acceleration		
5) PIND		
6) Instability Shock Test		
7) Hermetic Seal F&G		
8) Serialization	100%	
9) Interim Electrical Parameters	100%	
10) HTRB 24 Hours	100%	1039 Condition A
11) Interim Electrical Parameters As Specified For Device Type	100%	
12) Burn-in 160 Hours	100%	1039 Condition B
13) Final Electrical Parameters As Specified For Device Type	100%	
14) Hermetic Seal F&G	100%	1071
15) Radiography		
16) External Visual Examination		
17) Case Isolation		



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EX Qualification	
Qualification SubGroups A, B, C, E	
<u>Group A</u>	<u>Group B</u>
<u>Subgroup 1</u> Visual & Inspection MIL-STD-750 Method 2071	<u>Subgroup 1</u> Solderability Resistance To Solvents Salt Atmosphere
<u>Subgroup 2</u> DC (Static) test @ +25C	<u>Subgroup 2</u> Thermal Shock Glass Diodes Only Temperature Cycling 25 Cyc (20 @ Screening, totaling 45) Surge Current Hermetic Seal Electrical Measurements Per Group A SubG 2
<u>Subgroup 3</u> DC (Static) test @ -65C and +150C	<u>Subgroup 3</u> Steady State Operation Life Biased, 340 Hours Electrical Measurements Per Group A SubG 2 Hermetic Seal Method 1071 Bond Strength Condition D 11 Wires
- <u>Subgroup 4</u> Dynamic test @ +25C	<u>Subgroup 4</u> Decap - Internal Visual; Examination
- <u>Subgroup 5</u> Safe Operating Area Test	<u>Subgroup 5</u> Thermal Resistance Not Applicable - Case Mount Device
<u>Subgroup 6</u> Surge Current	<u>Subgroup 6</u> High Temperatrue Life, Non-Operating 340 Hours Electrical Measurements Per Group A SubG 2
<u>Subgroup 7</u> Select Static & Dynamic Tests	

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<u>Group C</u>	<u>Group E</u>
<u>Subgroup 1</u> Physical Dimensions	<u>Subgroup 1</u> Temperature Cycling Hermetic Seal Electrical Measurements Per Group A SubGroup 2
<u>Subgroup 2</u> Thermal Shock (Glass Diodes Only) Temperature Cycling Terminal Strength Hermetic Seal Moisture Resistance Electrical Measurements (Per Group A SubGroup 2)	<u>Subgroup 2</u> SS Operation Life Biased, 1000 Hrs
<u>Subgroup 3</u> Shock Test Vibration, Variable Frequency Constant Acceleration Electrical Measurements (Per Group A SubGroup 2)	<u>Subgroup 3</u>
<u>Subgroup 4</u> Salt Atmosphere	<u>Subgroup 4</u> Thermal Impedance Curves
<u>Subgroup 5</u> Thermal Resistance	<u>Subgroup 5</u> Barometric Pressure
<u>Subgroup 6</u> SS Operation Life Electrical Measurements (Per Group A SubGroup 2) Hermetic Seal Bond Strength	<u>Subgroup 6</u> ESD
<u>Subgroup 7</u> I G A	<u>Subgroup 7</u> Resistance To Solder Heat Hermetic Seal Electrical Measurements (Per Group A SubGroup 2)
	<u>Subgroup 8</u> Reverse Stability Method 1033 Condition B
	<u>Subgroup 9</u> Resistance To Glass Cracking