

DATASHEET 323, REV H

SS-100 SCREENING FLOW

DISCRETE SEMICONDUCTORS
(Not applicable for Axial & MELF Diodes)

All parts procured with JAN-S Screening shall be 100% screened in accordance with the following procedure.

SCREEN NUMBER	TEST / PROCESS	MIL-STD-750 TEST METHOD	TEST CONDITIONS
1a	Die Visual	2073	Condition B
1b	Internal Visual	2074 2069 Power FETs 2072 Transistors	As specified
2	Not Applicable		
3a	Temperature Cycling (Thermal Shock)	1051	No dwell time is required at +25°C. Test condition C, or maximum storage temperature, whichever is less, 20 cycles. Condition A or B, as specified.
3b	Surge Current	4066	Condition A or B, as specified
3c	Thermal Impedance	3101 Diodes 3103 IGBT 3131 Bipolar 3161 Power FETs	As specified.
4	Constant Acceleration	2006	Y1 @ 10,000g or as specified
5	PIND	2052	Test Condition A
6-7	Not Applicable		-
8	Serialization	-	-
9	Electrical Tests	-	As specified; Read And Record.
10	High Temperature Reverse Bias (HTRB)	1038A Diodes and Rectifiers 1039 Transistors 1042 Power FETs	Test Condition A $T_A = 125^\circ\text{C}$; $t = 48$ hrs min; $V_R = 80\%$ of rated V_R
11	Electrical Tests	-	As specified; Read And Record.
12	Burn-In	1038 Diodes and Zeners 1039 Transistors 1042 Power FETs	Test Condition B Test Condition B Test Condition A $T_A = 25^\circ\text{C}$; $t = 240$ hrs min; Adjust T_A and I_o to maintain the junction temperature at +125°C minimum
13	Electrical Tests	-	As specified; Read And Record.
13a	PDA		5% Max
13b	Other Electrical	-	As specified; Group A, subgroup 3
14	Hermetic Seal	1071	Fine Leak Gross Leak
15	Radiography	2076	-
16	External Visual	2071	After complete marking, prior to lot acceptance.

Note: For potted assemblies such as bridge rectifiers, screening is performed on discrete hermetic components prior to assembly and potting. Completed assemblies are subjected to temperature cycling followed by final electrical parameter verification.

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SS-100 SCREENING FLOW

AXIAL AND MELF ZENER DIODES

All parts procured with JAN-S Screening shall be 100% screened in accordance with the following procedure.

SCREEN NUMBER	TEST/PROCESS	MIL-STD-750 TEST METHOD	TEST CONDITION
1a	Die Visual	2073	-
1b	Internal Visual	2074	-
3a	Temperature Cycling (Thermal Shock)	1051	No dwell time is required at +25°C. Test condition C, or maximum storage temperature, whichever is less, 20 cycles.
3b	Surge Current If specified on Slash Sheet	4066	Condition B as specified
3c	Thermal Impedance	3101	As specified on Slash Sheet
7	Hermetic Seal	1071	-
8	Serialization	-	-
9	Electrical Tests	-	As specified; Read and Record.
10	High Temperature Reverse Bias (HTRB)	1038A	Test Condition A $T_A = 150^\circ\text{C}$; $t = 48$ hrs; $V = 80\%$ of $V_{Z\text{NOM}}$
11	Electrical Tests and delta parameters for PDA	-	As specified; Read and Record.
12	Burn-In	1038B	Test Condition B $T_A = +75^\circ\text{C}_{\text{MAX}}$; $t = 240$ hrs. ; $I_Z(\text{MIN}) \geq$ as specified ; $T_{J\text{MIN}} =$ as specified; adjust I_Z and/or T_A to achieve the required $T_{J\text{MIN}}$
13a	Electrical Tests and delta parameters for PDA	-	As specified; Read and Record ; Group A, subgroup 2
13b	Other Electrical	-	As specified; Group A, subgroup 3
15	Radiography	2076	-
16	External Visual	2071	After complete marking, prior to lot acceptance.

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**SS-100 SCREENING FLOW
HYBRIDS**

Reference: MIL-PRF-38534, Class K

SCREEN	MIL-STD-883 METHOD	CONDITIONS	
1	Non-destructive Pull Test	2023	100%
2	Internal Visual	2017	Condition A
3	Temperature Cycling	1010	Condition C
4	Constant Acceleration	2001	Condition A (min) Y1 orientation only.
5	PIND	2020	Condition A
6	Serialization	-	-
7	Pre burn in Electrical Parameters	-	Per device detailed specification. Read and record.
8	Burn-in	1015	320 hours at 125°C minimum, divided equally into 2 successive burn-ins.
9	Final Electrical Parameters	-	Per device detailed specification. Subgroups 1, 2, 3 minimum. Read and record
10	PDA Calculation	-	2% or 1 device, calculated on failures from second burn-in only.
11	Seal:	1014	Fine Leak Gross leak
12	Radiography	2012	As specified
13	External Visual, Mechanical	2009	As specified

**SS-100 SCREENING FLOW
MICROCIRCUITS**

Reference: MIL-PRF-38535, Class S and MIL-STD-883, Test Method 5004 Class S

SCREEN	MIL-STD-883 METHOD	CONDITIONS	
1	Non-destructive bond pull	2023	100%
2	Internal Visual	2010	Condition A
3	Temperature Cycling	1010	Condition C
4	Constant Acceleration	2001	Condition E (min) Y1 orientation only.
4.1	Visual Inspection	2009	-
5	PIND	2020	Condition A
6	Serialization	-	-
7	Pre burn in Electrical Parameters	-	Per device detailed specification. Read and record only when delta required.
8	Burn-in	1015	240 hours at 125°C minimum.
9	Interim (post burn in) Electrical Parameters	-	Per device detailed specification. Read and record.
10	PDA Calculation	-	5% or 1 device whichever is greater (Group A subgroup 1 + deltas) plus 3% or 1 device whichever is greater. (Functional parameters at 25°C)
11	Final Electrical Parameters	-	Per device detailed specification. Read and record.
12	Seal: a. Fine b. Gross	1014	-
13	Radiographic	2012	Two views
14	External Visual, Mechanical	2009	-

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