

SENSITRON
SEMICONDUCTOR

DATASHEET 323, REV E.1

SS-100 SCREENING PROCEDURE

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.

1a	Die Visual	2073	-
1b	Internal Visual	2074 2069 Power FETs 2072 Transistors	-
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	As Specified
3c	Thermal Impedance	3101 3103 3104 3131 3161	As specified.
4	Constant Acceleration	-	Y1 @ 10,000g or as specified
5	PIND	-	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	1038B Diodes and Zeners 1039 Transistors 1040 Thyristors 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
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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AXIAL & MELF DIODES

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

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 A or B as specified
3c	Thermal Impedance	3101	As specified on Slash Sheet
7	External Visual (glass frit only)	2068	-
	Hermetic Seal (glass sleeve only)	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_R
11	Electrical Tests and delta parameters for PDA	-	As specified - Read And Record.
12	Burn-In	1038B	Test Condition B $T_A = 25^\circ\text{C}$; $t = 240$ hrs; $V_R = \text{Rated Value}$; $I_O = \text{Rated Value}$; $f = 50\text{-}60$ Hz
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.

Notes:

- For Surface Mount parts, screening is performed on discrete hermetic components prior to assembly. Completed assemblies are subjected to temperature cycling followed by final electrical parameter verification.
- Marking on diode will be the original TXV part number, no re-marking.
- Marking on the MELFs will be the original cathode band only, no remarking.
- Generic Group A, Group B and Group C data to a TXV level is available (additional charge).
Group A, Group B and Group C to a Space level is per customer's request only (additional charge).
- Parts are packed in standard sleeves.
- Serial number tags may be left on or removed at Sensitron's option.
- Read and Record data is filed and sent only at the request of customer.

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HYBRIDS

Reference: MIL-PRF-38534, Class K

1	Non-destructive Pull Test	2023	100%
2	Internal Visual	2017	Condition B
3	Temperature Cycling	1010	Condition C
4	Constant Acceleration	2001	Condition A (min) Y1 orientation only.
5	PIND	2020	Condition A or B
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: a. Fine b. Gross	1014	-
12	Radiography	2012	-
13	External Visual, Mechanical	2009	-

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MICROCIRCUITS

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

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	-	-
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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