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.

	TEST / PROCESS	MIL-STD-750 TEST METHOD	TEST CONDITIONS
1a	Die Visual	2073	Condition B, die form prior to assembly
1b	Internal Visual	2074 Diodes (Glass) 2069 Power FETs 2072 Transistors, non-glass Diodes	As specified
3a	Temperature Cycling	1051	Test condition C or maximum storage temperature, whichever is less. 20 cycles, t (extremes) ≥ 10 minutes. No dwell time required at 25^0C.
3b	Surge Current	4066	Condition A or B, as specified. Only applicable if specified.
3c	Thermal Impedance	3161 Power FETs 3103 IGBT 3131 Bipolar 3101 Diodes	Only applicable if specified.
4	Constant Acceleration Not required for stud devices and metallurgically bonded diodes	2006	Y1 direction @ 20,000G, except at 10,000G for power rating > 10W at Tc = 25C - 1-minute hold time does not apply
5	PIND	2052	Test Condition A
8	Serialization	-	-
9	Interim Electrical Parameters	-	Per device detail specification. 100% Read and Record.
10	High Temperature Reverse Bias - HTRB	1039 Transistors 1042 Power FETs 1038 Diodes and Rectifiers	Condition A 80% (minimum of rated VCB (bipolar), VGS (FET) or VDS (FET). Condition B 80% (minimum) of rated VGS. Condition A 80% (minimum) of rated VR or VRWM; 100% of VRWM if half sine condition is specified. 80%~85% of nominal Vz for Zeners with Vz > 10V; omit for zeners with Vz ≤ 10V
11	Interim Electrical Parameters	-	As specified, but including all delta parameters, as a minimum. Leakage current shall be measured prior to any other parameter, within 16 hours after removal of applied voltage in HTRB.
12	Burn-In	1039 Bipolar Transistors 1042 Power FETs 1038 Diodes, Rectifiers and Zeners 1038 Case mount Rectifiers 1040 Thyristors	Condition B 240 hours minimum. Condition A 240 hours minimum. Condition B 240 hours minimum. Condition B 240 hours minimum 240 hours minimum (full wave blocking test).
13	Final Electrical	-	Group A, Subgroup 2, and delta parameters. Glass Rectifiers and Switching Diodes need Scope Display
13a	PDA		5% Max

13b	Other Electrical	-	As specified; Group A, subgroup 3
14	Hermetic Seal a. Fine b. Gross	1071	Fine leak – not required for Double Plug Diodes
15	Radiography	2076	-
16	External Visual	2071	After complete marking, prior to lot acceptance.
17	Case Isolation	To be performed on case isolated packages.	As specified.

Notes: 1) Sequence and testing varies per device.
2) For diode bridges pre-cap visual is performed at the bridge assembly level prior to potting.
3) Flow in accordance with slash sheet may be used if applicable.

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 +25ºC. 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 = 150ºC ; t = 48 hrs; V = 80% of $V_{Z\ NOM}$
11	Electrical Tests and delta parameters for PDA	-	As specified; Read and Record.
12	Burn-In	1038B	Test Condition B T_A = +75ºC $_{MAX.}$; t = 240 hrs. ; $I_{Z\ (MIN)}$ ≥ as specified ; $T_{J\ MIN}$ = as specified; adjust I_Z and/or T_A to achieve the required $T_{J\ MIN}$
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.

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	-

DATASHEET 323, REV J

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