

Supplier				User Part Number		
Power Integrations				QH12TZ600Q		
Name of Laboratory locations where tests were carried out				Part Description		
Power Integrations, San Jose, USA (PISJ) Eurofins EAG Labs, Santa Clara, USA (EAG) ISE labs, Fremont, USA (ISE) Tongfu Microelectronics, Nantong, China (TFME)				600V, 12A H-Series PFC Diode		
Test#	Test Description	Test Conditions	Lab	#Lots	#Tested	#Failed
1	Pre- and Post-Stress Electrical Test	Test all data sheet parameters at 25°C	PISJ	3	984	0
3	External Visual (EV)	Per JESD22B-101	TFME	3	984	0
4	Parametric Verification (PV)	Test all data sheet parameters at 25°C	PISJ	3	30	0
5	High Temperature Reverse Bias (HTRB)	Reverse Biased @ 600V; T _A = 105°C; 1,000 hours	PISJ	3	231	0
7	Temperature Cycling (TC)	-55°C / +150°C; 1,000 cycles (per JESD22A-104)	PISJ	3	231	0
8	Unbiased Highly Accelerated Stress Test (UHAST)	130°C / 85%RH; 96 hours (per JESD22A-118)	EAG	3	231	0
9	High Humidity High Temp. Reverse Bias (H ³ TRB)	Reverse Biased @ 100V; 85°C / 85%RH; 1,000 hours (per JESD22A-110)	PISJ	3	231	0
10	Intermittent Operational Life (IOL)	T _A = 25°C; ΔT _j ≥ 100°C, Ton + Toff = 5 mins; 12,000 cycles (per MIL-STD-750, METHOD 1037)	PISJ	3	231	0
11	Human Body Model (ESD HBM)	250V, 500V & 1KV; 10 units per part (per AEC-Q101-001)	PISJ	1	30	0 ¹
11	Charge Device Model (ESD CDM)	500V, 750V & 1KV; 10 units per part (per AEC-Q101-005)	PISJ	1	30	0 ²
12	Destructive Physical Analysis (DPA)	Total 2 units (1 TC and 1 H ³ TRB) per AEC-Q101-004	PISJ	1	2	0
13	Physical Dimension (PD)	Per spec JESD22B-100	TFME	1	30	0
14	Terminal Strength (TS)	Per spec MIL-STD-750, METHOD 2036	ISE	1	30	0
20	Resistance to Solder Heat (RSH)	Per JESD22A-111	ISE	1	30	0
21	Solderability (SD)	Per JESD22B-102	TFME	1	10	0
22	Thermal Resistance (TR)	Per JESD24	TFME	3	4	0
23	Wire Bond Strength (WBS)	500g min. with Cpk > 1.67; 10 bonds from min. of 5 units (Per MIL-STD-750 Method 2037)	TFME	1	25	0
24	Bond Shear (BS)	500g min. with Cpk > 1.67; 1st and 2nd wedge bonds: 10 bonds from min. of 5 units (Per AEC-Q101-003)	TFME	1	25	0
25	Die Shear (DS)	≥3.96kg; (Per MIL-STD-750 Method 2017)	TFME	1	5	0
29	Lead Free (LF)	Per AEC-Q005	TFME	Completed and passed		

Footnotes:

- ESD HBM passed 250V, 500V and 1000V; therefore, it is classified as "H1B" level.
- ESD CDM passed 500V, 750V and 1000V; therefore, it is classified as "C4" level.

Conclusion:

QH12TZ600Q passed all requirements for AEC-Q101.