

Product Specification

T20 BULB SOCKET(Plug type) for GMK

Index

1. SCOPE	p.2
2. APPLICABLE DOCUMENTS	p.2
3. REQUIREMENTS	p.2

1. SCOPE

1.1 Contents.

This specification covers the requirements for product performance, test methods and quality assurance provisions of 8-Pin Connector.

The applicable product descriptions and part number are as follows:

Part Number	Descriptions
x-2219370-x	T20 BULB SOCKET ASS'Y –WIRELESS TYPE
x-2219371-x	T20 bulb socket HSG - wireless type
2219751-1 1-2219751-1	Positive TML for T20 bulb socket ass'y - wireless type
2219752-1	Ground TML for T20 bulb socket ass'y - wireless type
1897956-1	O-Ring

2. APPLICABLE DOCUMENTS

Reference Documents:

A. GMW 3191

3. REQUIREMENTS

3.1 Design and Construction:

Product shall be of the design, construction and physical dimensions Specified on the applicable product drawing.

3.2 Materials

2219371 : PA46-GF15

3.3 Ratings

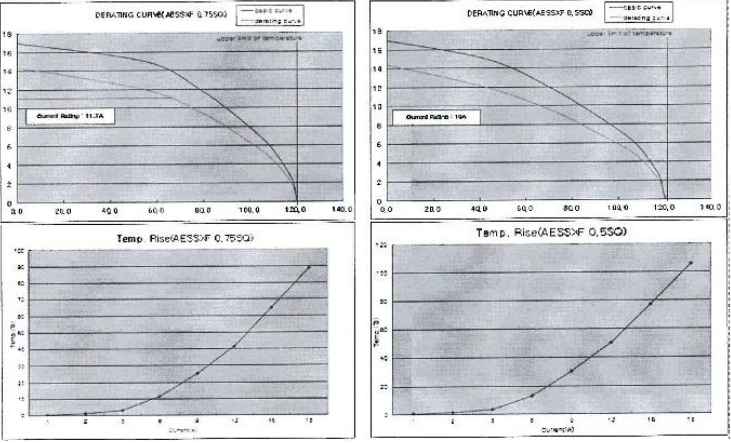
Temperature Rating: -40°C to + 85°C

(Ambient Temperature + Temperature Rise due to energized current)

3.4 Performance and Test descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Para. 3.5. All tests are performed at ambient temperature unless otherwise specified.

3.5 Test Requirements and Procedures Summary:

Item No.	Procedure Or Standard	Test Description	Acceptance Criteria
1	GMW 4.2.3	Terminal to terminal engage force	GMW Sequence26C
1a	GMW 3.4	Visual Inspection	Inspect for defects.
1b	GMW 4.2.3	Terminal to Terminal Engage Force	-
2	GMW 4.3.1	Maximum Current Rating	GMW Sequence27A
2a	GMW 3.4	Visual Inspection	Inspect for defects
2b	GMW 3.2.1	Conditioning	None condition cycle
2c	GMW 4.3.1	Max Current rating	
2d	GMW 3.4	Visual Inspection	Inspect for defects
3	GMW 4.3.4	1008h Current Cycling	GMW Sequence27C
3a	GMW 3.4	Visual Inspection	Inspect for defects
3b	GMW 4.3.2	1 cycle Dry Circuit resistance	RT : 8mΩ Max
3c	GMW 4.3.4	1 cycle Temperature rise	Shall not exceed the temperature limit
3d	GMW 4.3.2	Last cycle Dry circuit resistance	RT : 8mΩ Max
3e	GMW 4.3.4	1 cycle Temperature rise	Shall not exceed the temperature limit
3f	GMW 3.4	Visual Inspection	Inspect for defects
4	GMW 4.4.5	Heavy Duty Test	GMW sequence 27D
4a	GMW 3.4	Visual Inspection	Inspect for defects
4b	GMW 4.3.2	Dry circuit resistance 1.2mm	Rt <= 8mΩ
4c	GMW 4.2.4	Heavy Duty Test -40 °C~+80 °C Temp Class 2 Temp Rise	+50 °C Max

4d	GMW 4.3.2	Dry circuit resistance 1.2mm	Rt <= 8mΩ
4e	GMW 3.4	Visual Inspection	Inspect for defects
5	GMW 4.2.8	Connector-to-Connector Engagement Force	GMW sequence 28C
5a	GMW 3.4	Visual Inspection	Inspect for defects.
5b	GMW 4.2.8	Connector-to-Connector Engagement Force (50±10mm/min)	45N Max
5c	GMW 3.4	Visual Inspection	Inspect for defects.
6	GMW 4.2.13	Connector Audible Feedback	GMW sequence 28H
6a	GMW 3.4	Visual Inspection	Inspect for defects.
6b	GMW 4.2.13	1.Un-conditioned 2.Conditioned	1. Ambient Noise : + 7dB Min 2. Ambient Noise : + 5dB Min
6c	GMW 3.4	Visual Inspection	Inspect for defects.
7	GMW 4.2.14	Connector Lock Mechanical overstress	GMW sequence 28J
7a	GMW 3.4	Visual Inspection	Inspect for defects.
7b	GMW 4.2.14	- Horizontal - Vertical	No damage with 150N
7c	GMW 3.4	Visual Inspection	Inspect for defects.
8	GMW 4.2.18	Locked Connector Disengagement Force	GMW sequence 28N
8a	GMW 3.4	Visual Inspection	Inspect for defects.
8b	GMW 4.2.18	Locked Connector Disengagement Force (50±10mm/min) 8Way	120N Min
8c	GMW 3.4	Visual Inspection	Inspect for defects.
9	GMW 4.2.19	Unlocked Connector Disengagement Force	GMW sequence 28P
9a	GMW 3.4	Visual Inspection	Inspect for defects.
9b	GMW 4.2.19	Disengagement Unlock CONN'R	100N Max
9c	GMW 4.2.19	Lock disengagement	70N Max
9d	GMW 3.4	Visual Inspection	Inspect for defects.
10	GMW 4.2.20	Connector Polarization (Coding) Feature Effectiveness	GMW sequence 28Q
10a	GMW 3.4	Visual Inspection	Inspect for defects.

10b	GMW 4.2.20	Connector Mated One or more incorrect orientations	No mating >150 N or mating value *3
10c	GMW 3.4	Visual Inspection	Inspect for defects.
11	GMW 4.4.6	Flammability	GMW sequence 28R
11a	GMW 4.4.6	Flammability	100mm / min Max
12	GMW 4.2.21/ 4.4.8	Mechanical Shock/ Vibration Sequence	GMW sequence 28S
12a	GMW 3.4	Visual Inspection	Inspect for defects.
12b	GMW 3.2.1	Conditioning	10 condition cycle
12c	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
12d	GMW 4.2.21	Mechanical Shock Wire size : 0.75mm ²	Resistance >7Ω >1 μs
12e	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
12f	GMW 4.4.8	Vibration with Thermal Cycling -Vibration Class 1 -Temp Class 2 -Circuit Continuity Monitoring Wire size : 0.75mm ²	Resistance >7Ω >1 μs
12g	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
12h	GMW 3.4	Visual Inspection	Inspect for defects.
13	GMW 4.4.12	Fluid Resistance Sequence	GMW sequence 29A
13a	GMW 3.4	Visual Inspection	Inspect for defects.
13b	GMW 3.2.1	Conditioning	10 condition cycle
13c	GMW 4.3.5	Isolation Resistance	$R > 100 \text{ Mohms @ } 500 \text{ VDC For } 15s$
13d	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
13e	GMW 4.4.12	Fluid Resistance Sequence	
13f	GMW 4.4.10	Pressure/Vacuum Leak -Increase the air pressure Until 28KPa For 15s	No bubbles
13g	GMW 4.3.5	Isolation Resistance	$R > 100 \text{ Mohms @ } 500 \text{ VDC For } 15s$
13h	GMW 4.3.6	Dielectric Strength - AC1000V at 50 or 60Hz - DC 1600V For 60s	No Breakdown No Flash Over
13i	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$

13j	GMW 3.4	Visual Inspection	Inspect for defects.
14	GMW 4.4.1	Thermal Aging	GMW sequence 29C
14a	GMW 3.4	Visual Inspection	Inspect for defects.
14b	GMW 3.2.1	Conditioning	10 condition cycle
14c	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
14d	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
14f	GMW 4.4.10	Pressure/Vacuum Leak Initial Increase the air pressure Until 48KPa	No bubbles
14e	GMW 4.4.1	Thermal Aging +105°C for 1008h (Temp Class2)	
14f	GMW 4.4.10	Pressure/Vacuum Leak -Increase the air pressure Until 28KPa For 15s	No bubbles
14g	GMW 4.4.9	Submersion (Sealing Class 2 0.5mm ² & 0.75mm ² Wire) +105°C(Temp Class2) - Leakage Current	5 μ A Max
14h	GMW 3.4	Visual Inspection	Inspect for defects.
14i	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
14j	GMW 4.3.6	Dielectric Strength - AC1000V at 50 or 60Hz - DC 1600V For 60s	No Breakdown No Flash Over
14k	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
14l	GMW 3.4	Visual Inspection	Inspect for defects.
15	GMW 4.4.2	Thermal Shock	GMW sequence 29D
15a	GMW 3.4	Visual Inspection	Inspect for defects.
15b	GMW 3.2.1	Conditioning	10 condition cycle
15c	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
15d	GMW 4.3.2	Dry Circuit Resistance -1.2mm	$R_T \leq 8m\Omega$
14f	GMW 4.4.10	Pressure/Vacuum Leak Initial Increase the air pressure Until 48KPa	No bubbles

15e	GMW 4.4.2	Thermal Shock -40°C ~ +105°C (Temp Class2) For 300h - Circuit Continuity Monitoring	Resistance >7Ω >1 μs
15f	GMW 4.4.10	Pressure/Vacuum Leak -Increase the air pressure Until 28KPa For 15s	No bubbles
15g	GMW 4.4.9	Submersion (Sealing Class 2 0.5mm ² & 0.75mm ² Wire) +105°C(Temp Class2) - Leakage Current	5 μA Max
15h	GMW 3.4	Visual Inspection	Inspect for defects.
15i	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
15j	GMW 4.3.6	Dielectric Strength - AC1000V at 50 or 60Hz - DC 1600V For 60s	No Breakdown No Flash Over
15k	GMW 4.3.2	Dry Circuit Resistance -1.2mm	R _T ≤ 8mΩ
15l	GMW 3.4	Visual Inspection	Inspect for defects.
16	GMW 4.4.3	Humidity Heat Cycling (HHC)	GMW sequence 29E
16a	GMW 3.4	Visual Inspection	Inspect for defects.
16b	GMW 3.2.1	Conditioning	10 condition cycle
16c	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
16d	GMW 4.3.2	Dry Circuit Resistance -1.2mm	R _T ≤ 8mΩ
14f	GMW 4.4.10	Pressure/Vacuum Leak Initial Increase the air pressure Until 48KPa	No bubbles
16e	GMW 4.4.3	Humidity Heat Cycling for 5cycle - Table 12 - Figure 22	
16f	GMW 4.4.10	Pressure/Vacuum Leak -Increase the air pressure Until 28KPa For 15s	No bubbles
16g	GMW 4.4.9	Submersion (Sealing Class 2 0.5mm ² & 0.75mm ² Wire) +105°C(Temp Class2) - Leakage Current	5 μA Max

16h	GMW 3.4	Visual Inspection	Inspect for defects.
16i	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
16j	GMW 4.3.6	Dielectric Strength - AC1000V at 50 or 60Hz - DC 1600V For 60s	No Breakdown No Flash Over
16k	GMW 4.3.2	Dry Circuit Resistance -1.2mm	R _T ≤ 8mΩ
16l	GMW 3.4	Visual Inspection	Inspect for defects.
17	GMW 4.4.4	Humidity Heat Constant (HHCO)	GMW sequence 29E
17a	GMW 3.4	Visual Inspection	Inspect for defects.
17b	GMW 3.2.1	Conditioning	10 condition cycle
17c	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
17d	GMW 4.3.2	Dry Circuit Resistance -1.2mm	R _T ≤ 8mΩ
14f	GMW 4.4.10	Pressure/Vacuum Leak Initial Increase the air pressure Until 48KPa	No bubbles
17e	GMW 4.4.4	Humidity Heat Constant for 240h - Table 14	
17f	GMW 4.4.10	Pressure/Vacuum Leak -Increase the air pressure Until 28KPa For 15s	No bubbles
17g	GMW 4.4.9	Submersion (Sealing Class 2 0.5mm ² & 0.75mm ² Wire) +105°C(Temp Class2) - Leakage Current	5 μA Max
17h	GMW 3.4	Visual Inspection	Inspect for defects.
17i	GMW 4.3.5	Isolation Resistance	R > 100 Mohms @ 500 VDC For 15s
17j	GMW 4.3.6	Dielectric Strength - AC1000V at 50 or 60Hz - DC 1600V For 60s	No Breakdown No Flash Over
17k	GMW 4.3.2	Dry Circuit Resistance -1.2mm	R _T ≤ 8mΩ
17l	GMW 3.4	Visual Inspection	Inspect for defects.

<i>Rev</i>	<i>Change</i>	<i>Description</i>	<i>Date</i>
A		Initial Released	19.JUL.'16

Prepared by, YH KIM	Checked By, KT LIM	Approved by HG CHO
Product Engineer	Senior Product Engineer	Product Engineering Manager