

3M™ Wiremount Socket, 3000 Series
3M™ Wiremount Socket Preassembled, 3000 Series

Product Specification 78-5102-0014-0

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Table of Contents

Section	Page
1. Scope	3
2. 3M Customer Documents	3
3. Performance and Test Descriptions	3
4. Requirements Overview.....	3
5. Electrical.....	4
6. Mechanical.....	4
7. Physical.....	4
8. Environmental.....	5
9. Test Sequence.....	5
10. Figures.....	6
11. Agency Listings.....	8
Important Notice	8

1. Scope

This document summarizes test methods, test conditions and product performance requirements for the 3M™ Wiremount Socket, 3000 Series and the 3M™ Wiremount Socket Preassembled, 3000 Series. Listings of materials, finishes, test conditions, and test standards are included in this specification. In the event of conflict between this specification and any documents listed below, the listed documentation supersedes this specification.

2. 3M Documents

78-5100-0718-6	TS-0718, Technical Data Sheet for 3M™ Wiremount Socket, 3000 Series
78-5100-0719-4	TS-0719, Technical Data Sheet for 3M™ Wiremount Socket Preassembled, 3000 Series
34-7027-4814-5	3443-94 3M™ Locator Plate Instructions

3. Performance and Test Description

Unless otherwise specified, all tests shall be performed on 3M™ Wiremount Socket, 3000 Series, part number 3425-XXXX or 3334-XXXX sockets with 30μ" of gold mated to 3M™ Four-Wall Header, N3000 Series, part number N3433-XXXXRB or N3372-XXXXRB with 30μ" of gold or 3M™ Four-Wall Header, 2500 Series, part number N2550-XXXX with 30μ" of gold using 3M™ Round Conductor Flat Cable, 3365 Series and 3M™ Round Conductor Flat Cable, 3801 Series at ambient environmental conditions per EIA-364. Unless otherwise specified, all values and limits are typical of those obtained by qualification testing of the subject product. All specifications are subject to revision and change without notice.

4. Requirements Overview

4.1 Ratings

Dielectric Withstanding Voltage: 500 VAC_{RMS} at sea level

Current: (EIA-364-070 method 2, 30°C maximum temperature rise.)

	1 Line	6* Lines	All Lines
28 AWG	4.50	1.75	1.00
26 AWG	4.75	2.00	1.00

*Lines are adjacent in 2x3 configuration

Temperature: -55°C to +105°C

Insulation Resistance: >1 x10⁹Ω at 500 VDC

UL Rating: 1.0A, 125V, 130°C

4.2 Materials

Insulation: Glass Filled Polyester PBT

Strain Relief: Plastic, Metal

Contact: BeCu Alloy

4.3 Finishes

Plating:

Nickel: 50 - 150 μ inches, ASTM B689-97, SAE AMS-QQ-N-290

Gold: 0.76 μm (30 μ inches) Avg, MIL-G-45204 Type II, Grade C

4.4 Regulatory Compliance

For regulatory information about this product, visit 3M.com/regs or contact your 3M representative.

5. Electrical

Description or Parameter	Values & Limits	Units	Requirement or Conditions	Test Standard or Method
Dielectric Withstanding Voltage	1000	VAC _{RMS}	Measured between adjacent and opposing contacts. No disruptive discharge during 1 minute duration. Sea level with 70% relative humidity. Excludes cable.	EIA-364-20F Method A Test Condition I
Dielectric Breakdown Voltage	1000	VAC/sec	Ramp assembled pair at 500V/s until electrical arc. Sea level with 70% relative humidity. Excludes cable.	EIA-364-20F Method A Test Condition I
Insulation Resistance	>1x10 ⁹	Ohms	Mated connectors. Measured between adjacent and opposing contacts. 500 VDC for 1 minute duration.	EIA-364-21F
Current Rating	28 AWG	Amperes	Wire gage.	EIA-364-70A Method 2
	4.50		1 line driven. 30°C temp. rise. 20% derated.	
	1.75		6 line driven. 30°C temp. rise. 20% derated.	
	1.00		All line driven. 30°C temp. rise. 20% derated.	
Low Level Connection Resistance	<10	Milliohms	10 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-23C

6. Mechanical

Description or Parameter	Values & Limits	Units	Requirement or Conditions	Test Standard or Method
Vibration	50-2000 5.35	Hz g	1.5 hours X, Y, & Z axis. Mated connector shall exhibit no discontinuities greater than 10 ns and 10 milliohm maximum ΔR contact resistance throughout testing.	EIA-364-28F Condition V, Table 2 Condition A, 1.5 hrs
Physical Shock	50	g	3 Shocks each directions for X, Y, & Z axis. 18 total. Mated connector shall exhibit no discontinuities greater than 10 ns and 10 milliohm maximum ΔR contact resistance throughout testing.	EIA-364-27B Test Cond. C
Mating Force / Contact	0.50 max	lbs	Mated to a .025" square pin. Average for connector. (Insertion Force)	EIA-364-13E Method A
Unmating Force / Contact	0.075 min	lbs	Mated to a .025" square pin. Average for connector. (Withdrawal Force)	EIA-364-13E Method A
Socket Contact Wiper Normal Force	≥100	g	Displacement equivalent to mating with a .0245" square pin. Test at end of Temperature Life sequence B.	EIA-364-04B
Durability (with Environmental)	50 (30 μ")	Mating cycles	10 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-09C
	10 (10u")			

7. Physical

Description or Parameter	Values & Limits	Units	Requirement or Conditions	Test Standard or Method
Visual	NA	NA	No defects such as deformation, blister, damage, crack, etc.	EIA-364-18A
(Metallic Coating) Adhesion	NA	NA	No cracking, flaking.	MIL-G-45204 Section 4.6.2
Plating thickness Nickel Gold Tin	50-150 30 Avg 100-300	μ"	Average of random measurements from any 3 lots.	EIA-364-48 (A)

8. Environmental

Description or Parameter	Values & Limits	Units	Requirement or Conditions	Test Standard or Method
Temperature Life	1000 105	hours °C	No physical abnormalities . 10 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-17C Method A Condition 4
Humidity Temperature Cycling	10 +25 to +65 80 to 100 -10	Days °C % RH °C cold shock	-10C sub cycle. No physical abnormalities. 10 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-31F Method IV Fig 1
Thermal Shock	-55 to +105 5	°C cycles	No physical abnormalities. 10 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-32G Method A, Test Cond. VII
Salt Spray	5 48	% NaCl hours	10 milliohm maximum ΔR contact resistance per mated interface throughout testing.	EIA-364-26C Test Cond. B

9. Test Sequence

9.1 Sequenced Tests

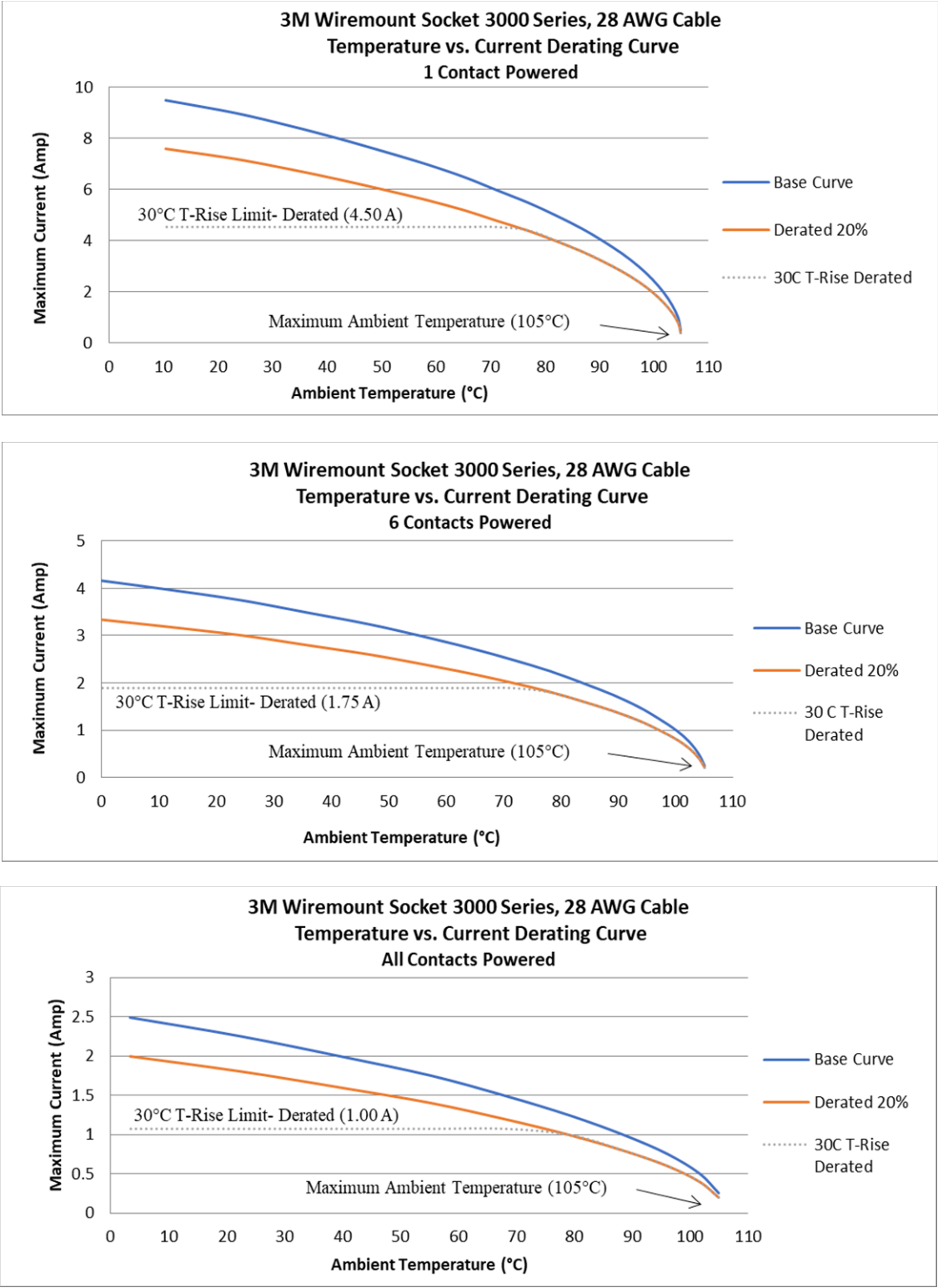
TEST FLOW

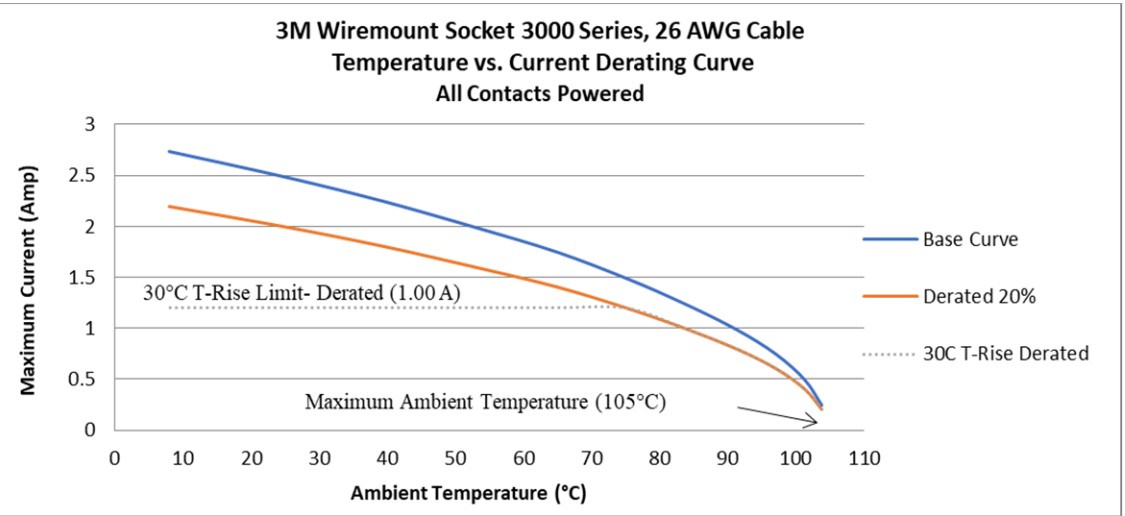
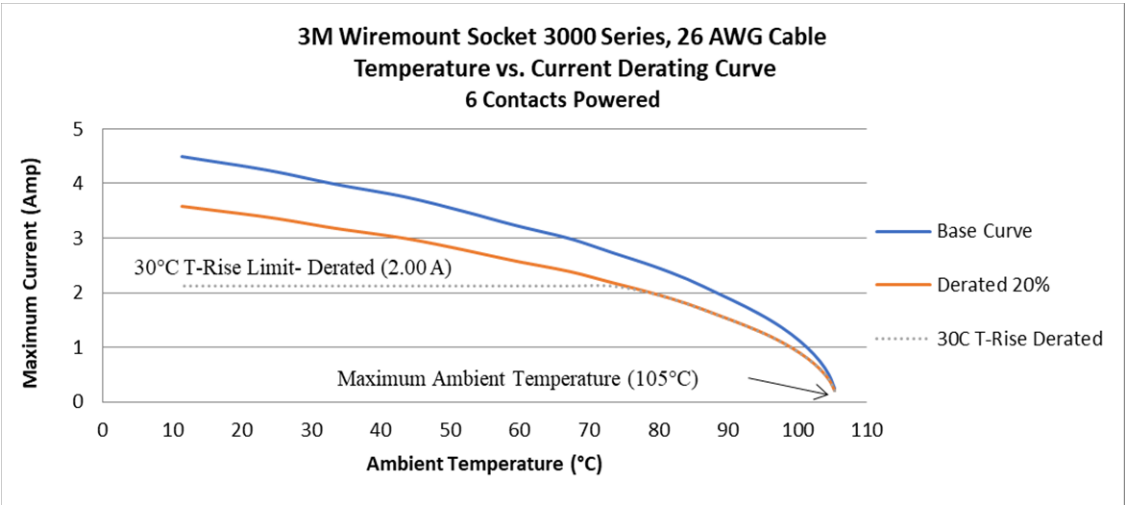
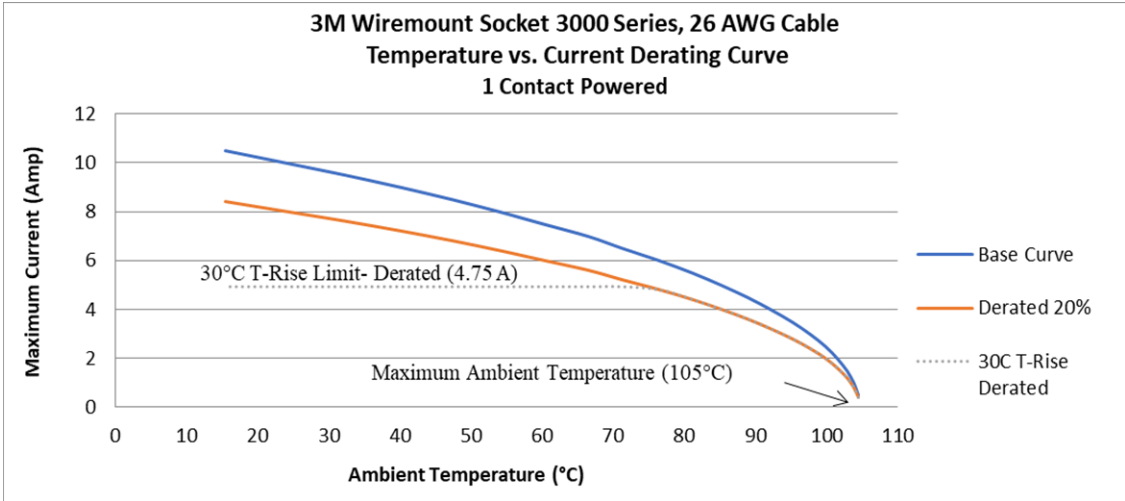
TEST	EIA 364 TP NO.	TEST GROUP & TEST SEQUENCE					
		A	B	C	D	E	F
Visual	18	0,8	0,5	0,6	0,6	0,6	0,3
LLCR	23	1,3,5,7	1,3	1,3,5	1,3,5		
Durability (Full)	13	2			2	3	
Temperature Life (Full)	17		2				
Mechanical Shock	27			2			
Vibration	28			4			
Thermal Shock	32	4					
Humidity Temperature Cycling	31	6					
Salt Spray	26				4		
Dielectric Withstanding Voltage	20					1,4	2
Dielectric Breakdown Voltage	20					7	
Insulation Resistance	21					2,5	
Contact Wiper Normal Force	4		4				
Temperature Rise vs. Current	70						1

9.2 Independent Tests

1. Contact Wiper Normal Force
2. Mating & Unmating Force
5. (Metal Coating) Adhesion

10. Figures
10.1 Current Rating





11. Agency Listings

11.1 Underwriters Laboratories (UL)

Agency	File No.
UL	E68080
CUL	E68080

Unless otherwise noted, references to industry specifications are intended to indicate substantial compliance to the material elements of the specification. Such references should not be construed as a guarantee of compliance to all requirements in a given specification.

Regulatory: For regulatory information about this product, visit [3M.com/regs](https://www.3M.com/regs)

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