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CHANGE NO.	645443				TRODUCT OF EOIL TOATION							
REVISED BY	BSKANTHARAJU	DATE	2020/09/14	DOC TYPE	DOC TYPE DESCRIPTION			SERIES				
REV APPR BY	JCUATACERVAN	DATE	2020/10/08	PS	PS PRODUCT SPECIFICATION WORD			33012				
	INITIAL RELEAS	E		CUSTON	MER	DOCUMENT NUMBER	REVISION	SHEET				
INITIAL DRWN	AKARANA	DATE	2013/03/29	GENERAL MARKET		PS-33012-002	B1	1 OF 6				
INITIAL APPR	JALEXANDER	DATE	2013/04/22			1 3-33012-002	וט	1 01 0				

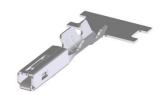


# **MX150 RECEPTACLE AND BLADE TERMINALS**

## 1.0 SCOPE

This Product Specification covers the MX150 Receptacle and Blade terminals crimped to an array of wires utilizing crimp technology.

## 2.0 PRODUCT DESCRIPTION









Receptacle Terminal

Receptacle ISO grip, M3 Terminal

Blade Terminal

Blade ISO grip, M3 Terminal

## 2.1 PRODUCT NAME AND ATTRIBUTES

Terminal	Gender	Sealing	Plating	Grip	Special Characteristics	Current
Family	Gender	Seamig	Platilig	Code	Special Characteristics	Rating
MX150	Receptacle	Mat Seal	Sn	22	High Performance Sn	12.5A
MX150	Receptacle	Mat Seal	Au	22	High Performance Au	12.5A
MX150	Receptacle	Mat Seal	Ag	22	High Performance Ag	12.5A
MX150	Receptacle	Mat Seal	Sn	18	High Performance Sn	16.5A
MX150	Receptacle	Mat Seal	Au	18	High Performance Au	16.5A
MX150	Receptacle	Mat Seal	Ag	18	High Performance Ag	16.5A
MX150	Receptacle	Mat Seal	Sn	14	High Performance Sn	22A
MX150	Receptacle	Mat Seal	Au	14	High Performance Au	22A
MX150	Receptacle	Mat Seal	Ag	14	High Performance Ag	22A
MX150	Receptacle	Mat Seal	Sn	M3	High Performance Sn ISO Grip	12.5A
MX150	Receptacle	Mat Seal	Au	M3	High Performance Au ISO Grip	12.5A
MX150	Receptacle	Mat Seal	Ag	M3	High Performance Ag ISO Grip	12.5A
MX150	Receptacle	Mat Seal	Sn	M3	Standard performance Sn ISO Grip	12.5A
MX150	Receptacle	Unsealed	Sn	22	High Performance Sn	12.5A
MX150	Receptacle	Unsealed	Au	22	High Performance Au	12.5A
MX150	Receptacle	Unsealed	Ag	22	High Performance Ag	12.5A
MX150	Receptacle	Unsealed	Sn	18	High Performance Sn	16.5A
MX150	Receptacle	Unsealed	Au	18	High Performance Au	16.5A
MX150	Receptacle	Unsealed	Ag	18	High Performance Ag	16.5A
MX150	Receptacle	Unsealed	Sn	14	High Performance Sn	22A
MX150	Receptacle	Unsealed	Au	14	High Performance Au	22A
MX150	Receptacle	Unsealed	Ag	14	High Performance Ag	22A
MX150	Blade*	Mat Seal	Sn	22	High Performance Sn	12.5A
MX150	Blade*	Mat Seal	Au	22	High Performance Au	12.5A
MX150	Blade*	Mat Seal	Ag	22	High Performance Ag	12.5A
MX150	Blade*	Mat Seal	Sn	18	High Performance Sn	17A
MX150	Blade*	Mat Seal	Au	18	High Performance Au	17A
MX150	Blade*	Mat Seal	Ag	18	High Performance Ag	17A
MX150	Blade*	Mat Seal	Sn	14	High Performance Sn	22A
MX150	Blade*	Mat Seal	Au	14	High Performance Au	22A
MX150	Blade*	Mat Seal	Ag	14	High Performance Ag	22A
MX150	Blade*	Mat Seal	Sn	M3	High Performance Sn ISO Grip	12.5A
MX150	Blade*	Mat Seal	Au	M3	High Performance Au ISO Grip	12.5A
MX150	Blade*	Mat Seal	Ag	M3	High Performance Ag ISO Grip	12.5A
MX150	Blade*	Mat Seal	Sn	M3	Standard performance Sn ISO Grip	12.5A

<sup>\*</sup>Also applicable for unsealed application

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CHANGE NO.	645443					1 110 2001 01 2011 107111011		
REVISED BY	BSKANTHARAJU	DATE	2020/09/14	DOC TYPE	DOC TYPE DESCRIPTION		DOC PART	SERIES
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# 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

All dimensions, terminal materials, plating descriptions and ID locations can be found on the applicable sales drawing.

#### 2.3 FEATURES AND BENEFITS

- High performance copper alloy
- One piece terminal design
- Molex cavity compatible
- High current carrying capability
- Validated to USCAR-21 crimp performance requirements across a wide array of wires
- Validated to USCAR-2 terminal performance requirements

#### 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Description	Document Number				
Description	Receptacle	Blade			
Sales Drawing	SD-33012-002	SD-33000-001			
Application Specification (Crimp)	AS-33012-002	AS-33000-001			
Packaging Specification	313025040				

#### **4.0 SAFETY AGENCY APPROVALS**

Agency	Approval Status
CSA File Number	Not Applicable
TUV License number	Not Applicable
UL File Number	Not Applicable
IMDS	Available upon request
Environmental Compliance	Available on molex.com

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#### 5.0 RATINGS / PERFORMANCE / VALIDATION

#### **5.1 ELECTRICAL**

Item	Description	Condition	Rating
5.1.1	Operating Voltage	Applied voltage during operation	Maximum Operating Voltage: Please refer to the product specification of the Molex connector to be used to obtain the connection system maximum operating voltage.
5.1.2	Crimp Resistance	Post environment crimp resistance	Change in crimp resistance $\leq$ 0.33m $\Omega$ or $\leq$ 0.55m $\Omega$ crimp resistance.

#### 5.1.3 TERMINAL CURRENT DERATING CURVES

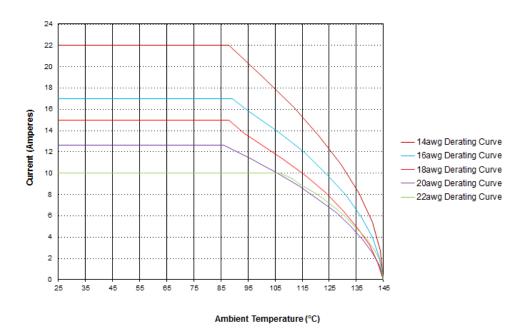
This test is used to determine the maximum test current at which a terminal system can operate in a room temperature environment before excessive thermal degradation and/or resistance begins to occur. Temperature Rise (Y axis) vs. Current (X axis) shall be plotted for each applicable conductor size.

CAUTION: These graphs are NOT to be used for actual terminal application in a vehicle. This test is conducted on terminals alone, thus eliminating the variation that may be introduced by variations in the heat dissipating characteristics of differing connector housing designs and sizes. This test cannot establish the Maximum Current Capability of a specific terminal application. For specific applications, several factors other than current load must be considered (see SAE/USCAR-2 appendix F for more information).

# 5.1.3.1 SAE WIRES TERMINAL USCAR DERATING CURVE

#### Sn Plated Terminal:

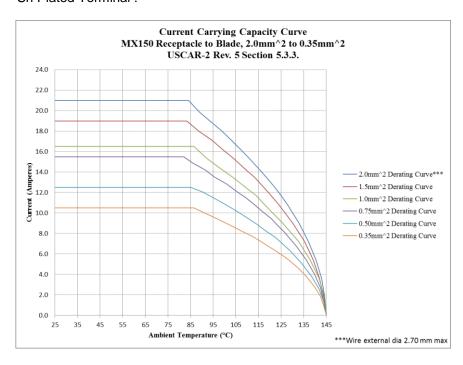
Current Carrying Capacity Curve MX150 Receptacle to Blade, 14awg to 22awg USCAR-2 Rev 4 Section 5.3.3



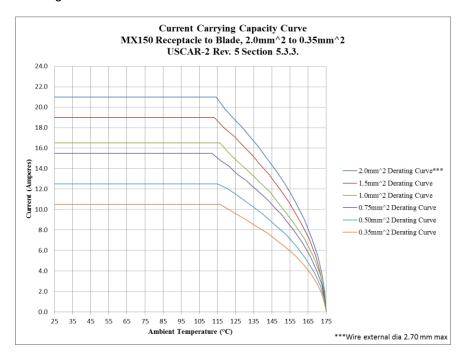
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# 5.1.3.2 ISO WIRES TERMINAL USCAR DERATING CURVE

#### Sn Plated Terminal:



# Au & Ag Plated Terminals :



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#### **5.2 TEMPERATURE**

Sn Plated Terminal

Non-operating temperature: - 40°C to +125°C Operating temperature: - 40°C to +125°C

Au & Ag Plated Terminals

Non-operating temperature: - 40°C to +155°C Operating temperature: - 40°C to +155°C

#### **6.0 PACKAGING**

Parts are packaged to protect against damage during handling, transit and storage. Please refer to PK-31300-516 reel wind direction. Terminals on reels should be stored in original packaging until ready for use. Storage temperature is recommended between 65 and 95°F (18 and 35°C) and storage humidity at less than 85% relative humidity. Under these conditions Molex recommended shelf life is 12 months from manufacturing date on terminal reel.

#### 7.0 GAGES AND FIXTURES

Gages and Fixtures are referenced in the appropriate control plans of the receptacle terminals. For terminal electrical checking, please refer to the related connector application specification.

#### 8.0 OTHER INFORMATION / MISCELLANEOUS

MOLEX REPRESENTS AND WARRANTS TO BUYER FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF DELIVERY OF THE PRODUCTS THAT:

1) THE PRODUCTS SHALL CONFORM TO THE MOLEX SPECIFICATIONS FOR THE PRODUCTS IN FORCE AT THE DATE OF DELIVERY OF THE PRODUCTS TO BUYER, AND

2) THE PRODUCTS SHALL BE FREE FROM DEFECTS IN MATERIALS AND MANUFACTURING.

EXCEPT AS EXPRESSLY PROVIDED ABOVE, MOLEX MAKES NO WARRANTY, EXPRESS OR IMPLIED, REGARDING THE PRODUCTS. ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. IN ADDITION, MOLEX EXPRESSLY DISCLAIMS ANY WARRANTY OBLIGATIONS IN THOSE INSTANCES WHERE THE FAILURES RESULTED FROM THE MODIFICATION OF THE PRODUCTS BY BUYER OR ITS CUSTOMERS, IMPROPER HANDLING, USE OR INSTALLATION OF THE PRODUCTS BY BUYER OR ITS CUSTOMERS, OR ANY OTHER CAUSE BEYOND THE CONTROL OF MOLEX.

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<sup>\*\*</sup>For terminal validation information contact your Molex Sales Engineer

<sup>\*\*</sup>For connector system level performance see related product specification