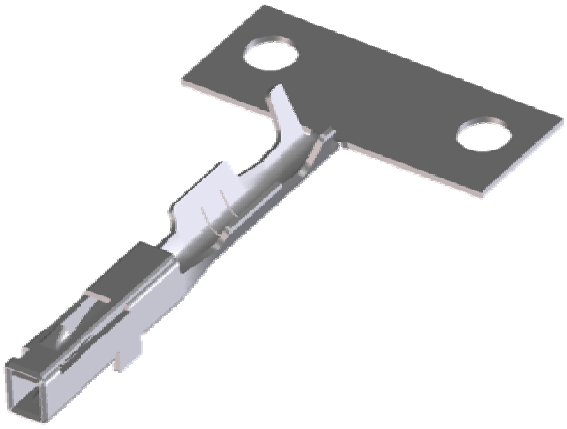
PRODUCT SPECIFICATION

CTX50 Female Crimped Tin Receptacle Terminal, 560023 Series



1.0 SCOPE

This Product Specification covers the CTX50, 0.5 receptacle terminal, crimped to an array of wires utilizing crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

- **560023:** CTX50 0.5 Female Terminal

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

All dimensions, terminal material and plating can be found on the sales drawings.

2.3 SAFETY AGENCY APPROVALS

Not Applicable

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Description	Document Number
Application Specification	AS-560023-001
Sales drawing	SD-560023-002
Packaging Specification	PK-31301-319

4.0 RATINGS

4.1 VOLTAGE

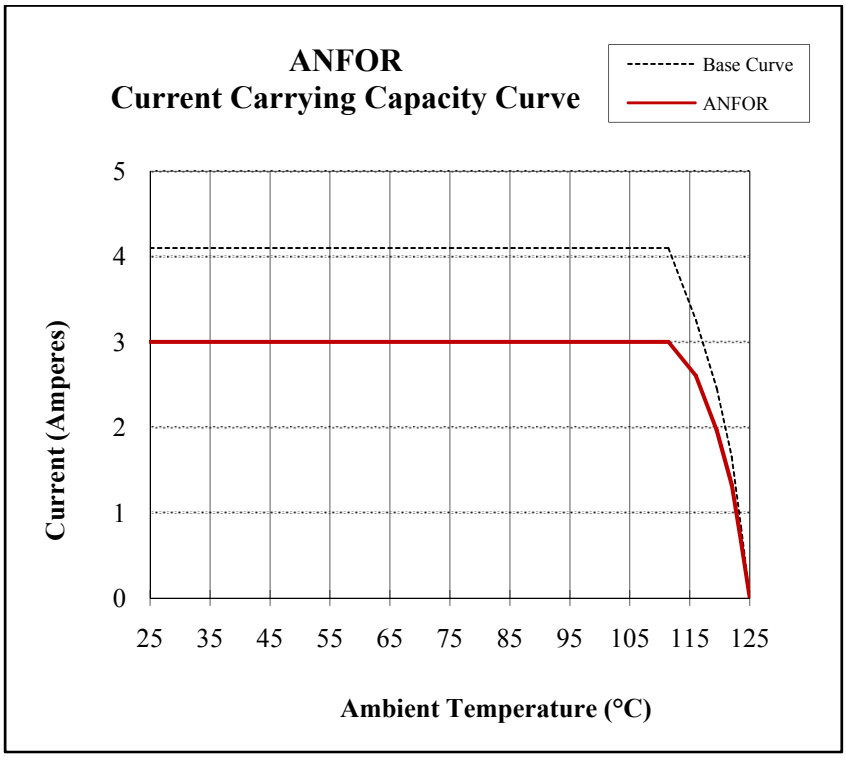
250 Volts AC.

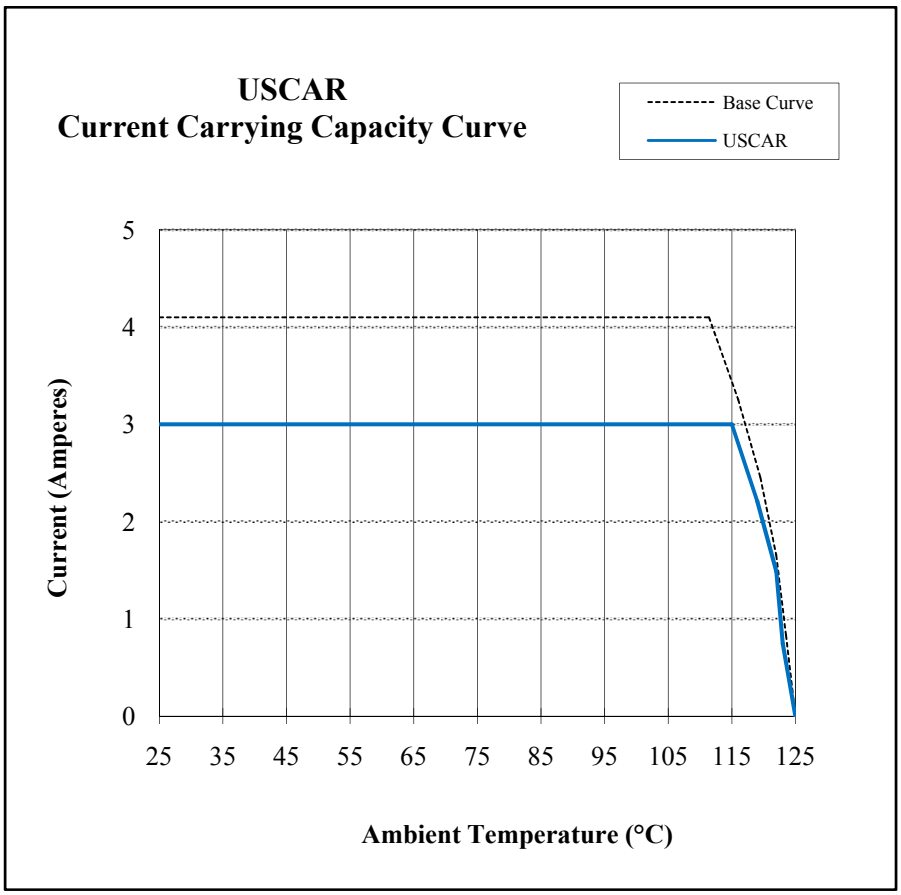
4.2 CURRENT AND APPLICABLE WIRES

Terminal size	*Wire section*	*Amps*	*Outside Insulation Diameter (max)*
0.50	0.35 mm²	see derating curve	1.2 mm
0.50	0.22 mm²	see derating curve	1.0 mm
0.50	0.08 mm²	see derating curve	0.76 mm

Note: The below curves were developed ***terminal only, outside plastic*** and are presented as a guideline. The end user must evaluate the performance of the connector pair in actual application to determine the suitability and actual performance.

Deratig Curves





All applicable wires per ANFOR and USCAR:

0.08mm² CHFUS
0.22mm² CHFUS
0.35mm² CHFUS

4.3 TEMPERATURE

Operating temperature: -40°C to +105°C.
Non operating temperature: -40°C to +105°C.

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	**Contact Resistance (Low Level)**	Mate terminals : apply a maximum voltage of **20** mV and a current of **100** mA	Terminal 0.50: **20** mΩ max.
2	**Contact Resistance at Rated Current (Voltage Drop)**	Mate terminals: apply **3** A of current with 0.35mm^2 wire	Terminal 0.50: **20** mΩ max.
3	**Current Carrying Capability**	Mate terminals: determine the heating curve by measuring the temperature after cycling the terminal **1008** cycles (45 minutes on, 15 minutes off per cycle)	Temperature not to exceed **55°C** over ambient.

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4	**Terminal to Terminal Insertion/Extraction Forces**	Insert the male tab (0.50mm wide X 0.40mm thick) 4.0 mm into the female terminal at a rate of **50** mm per minute	Terminal 0.50: **2** N max.
5	**Conduct Crimp Pull-out Force**	Apply an axial pullout force on the wire without insulation wings	Refer to DVP 1236 for all validated wire
6	**Terminal Bend Resistance**	Apply a force of **4** N on the insulation grip	No tears or cracks Rci ≤ **1**mΩ Rcf ≤ **2**mΩ
7	**Terminal Crush Resistance**	Apply a force of **10** N on the terminal box	Dimensions stay within print tolerance
8	**Crimp Insulation Bend Behavior**	Bend wire up 45° and down 45°, 5 cycles	No damage or movement to insulation of wire

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
9	**Wire to crimp – Accelerated Environmental Test**	Thermal shock condition 100 cycles	Contact resistance: **Rci** ≤ **1**mΩ **ΔRc** (R final-R initial) ≤ **1**mΩ
10	**Slow Flexion**	Thermal shock condition 100 cycles then flex the wire 500 cycles	Contact resistance: **Rci** ≤ **1**mΩ **ΔRci** (R tshock-R initial) ≤ **1**mΩ **ΔRcf** (R final-R tshock) ≤ **1**mΩ
11	**Mechanical Shock and Vibration at Temperature**	Shock 25G, No discontinuities > 7Ω for more than 1μS. Vibration 2.13G at 105° C at 22 hrs per axis	"Total Connection Resistance" shall be ≤ **20** mΩ
12	**Thermal Shock**	Conditioning 100 cycles, No discontinuities > 7Ω for more than 1μS	"Total Connection Resistance" shall be ≤ **20** mΩ
13	**Temperature/ Humidity Cycling**	Conditioned 240 hours at 85% R.H.	"Total Connection Resistance" shall be ≤ **20** mΩ
14	**High Temperature Exposure**	Conditioned 1008 hours	"Total Connection Resistance" shall be ≤ **20** mΩ

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

7.0 WIRE TYPES

Wires are in accordance with the following specifications:

Terminal Order No.		Validated Wire		
Left Payoff "D" Wind	Right Payoff "B" Wind	Size	Type	Conformity Standard
560023-0421	560023-0423	0.35mm²	CHFUS	ISO 6722 RoHS
		0.22mm²		ISO 6722 NDS2402
		24AWG	UL1061	ASTM B-8 ASTM B-286
		0.18mm²	FLRCUAGY	LV112
560023-0422	560023-0424	0.13mm²	FLMRY	ISO 6722 LV 112 GMW15626
			FLRCUMGY	LV112
		26AWG	UL1061	ASTM B-8 ASTM B-286
		0.08mm²	CHFUS	ISO 6722 RoHS
		28AWG	UL1061	ASTM B-8 ASTM B-286
		30AWG		