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Jameco Part Number 224143



PRODUCT SPECIFICATION

.093 SERIES PLUG AND RECEPTACLE POWER CONNECTORS

1.0 SCOPE

This Product Specification covers the 5.03 mm (.198 inch) centerline connector series using pin and socket terminals terminated with 14 to 24 AWG wire using crimp technology with tin plating.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

<u>PRODUCT NAME</u>	<u>SERIES NUMBER</u>
Plug Housing, 1-circuit	1619-1P
Receptacle Housing, 1-circuit	1619-1R
Plug Housing, 2-circuit	1545-P*
Receptacle Housing, 2-circuit	1545-R*
Plug Housing, 3-circuit	1396-P*
Receptacle Housing, 3-circuit	1396-R*
Plug Housing, 4-circuit (in-line)	1490-P*
Receptacle Housing, 4-circuit (in-line)	1490-R*
Plug Housing, 4-circuit (2 x 2)	2163-P*
Receptacle Housing, 4-circuit (2 x 2)	2163-R*
Plug Housing, 5-circuit	1653-P*
Receptacle Housing, 5-circuit	1653-R*
Plug Housing, 6-circuit	1261-P*
Receptacle Housing, 6-circuit	1261-R*
Plug Housing, 9-circuit	1292-P*
Receptacle Housing, 9-circuit	1292-R*
Plug Housing, 12-circuit	1360-P*
Receptacle Housing, 12-circuit	1360-R*
Socket Terminal, 14-18 AWG	1189
Pin Terminal, 14-18 AWG	1190
Socket Terminal, 18-22 AWG	1380
Pin Terminal, 18-22 AWG	1381
Socket Terminal, 22-24 AWG	2870
Pin Terminal, 22-24 AWG	2871
Socket Terminal, 14-18 AWG, (P-B)	4550
Socket Terminal, 18-22 AWG, (P-B)	2151

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Housings are molded of UL 94V-2 rated PA66.

Terminals are tin-plated brass or phosphor-bronze.

See appropriate sales drawings for additional information on dimensions, materials, platings and markings.

<u>REVISION:</u> B	<u>ECR/ECN INFORMATION:</u> EC No: UCR#2003-0230 DATE: 2002 / 08 / 07	<u>TITLE:</u> PRODUCT SPECIFICATION STANDARD .093 SERIES PLUGS & RECEPTACLES	<u>SHEET No.</u> 1 of 3
<u>DOCUMENT NUMBER:</u> PS-43660-9999	<u>CREATED / REVISED BY:</u> BWIRKUS 10/4/01	<u>CHECKED BY:</u> BWIRKUS 10/4/01	<u>APPROVED BY:</u> SFRY 10/5/01



PRODUCT SPECIFICATION

2.3 SAFETY AGENCY APPROVALS

UL File #E29179
CSA File #E29179

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See the appropriate sales drawings for necessary referenced documents and specifications.

4.0 RATINGS

4.1 VOLTAGE

250 Volts AC (RMS)

4.2 CURRENT AND APPLICABLE WIRES

AWG	Circuit Size	Amps
14	3	14
14	9	11
18	3	10
18	9	7
22	3	7
22	9	5

4.3 TEMPERATURE

Operating: - 55°C to + 105°C

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	Mate connectors: apply a maximum voltage of 20 mV and a current of 20 mA. (Measurement locations in Section 7.0)	10 milliohms MAXIMUM [initial]
2	Dielectric Withstanding Voltage	Mate connectors: apply a voltage of 2000 VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown; current leakage < 500 mA
3	Temperature Rise (via Current Cycling)	Mate connectors, measuring the temperature rise at 60 minute intervals during 96 hours of steady state at rated current; followed by 240 hours of current cycling (45 minutes ON and 15 minutes OFF per hour) with measurements made during last 5 minute period of each ON cycle; followed by 96 hours of steady state at rated current with measurements taken at 60 minute intervals.	Temperature rise: +30°C MAXIMUM

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DOCUMENT NUMBER: PS-43660-9999	CREATED / REVISED BY: BWIRKUS 10/4/01	CHECKED BY: BWIRKUS 10/4/01	APPROVED BY: SFRY 10/5/01



PRODUCT SPECIFICATION

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4	Connector Mate and Unmate Forces	Mate and unmate connector (male to female) at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute for a total of 25 cycles. Initial mate forces to be measured. Unmate forces to be measured after 25 cycles.	15.6 N (3.5 lbf) MAXIMUM insertion force 4.4 N (1 lbf) MINIMUM withdrawal force
5	Terminal Retention Force (in Housing)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute.	89 N (20 lbf) MINIMUM retention force
6	Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch).	MINIMUM pullout forces: 14 AWG 178 N (40 lbf) 16 AWG 156 N (35 lbf) 18 AWG 133 N (30 lbf) 20 AWG 89 N (20 lbf) 22 AWG 62 N (14 lbf) 24 AWG 36 N (8 lbf)
7	Terminal Insertion Force (into Housing)	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch).	22N (5 lbf) MAXIMUM insertion force

5.3 ENVIRONMENTAL REQUIREMENTS

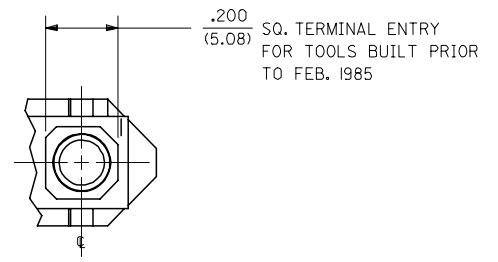
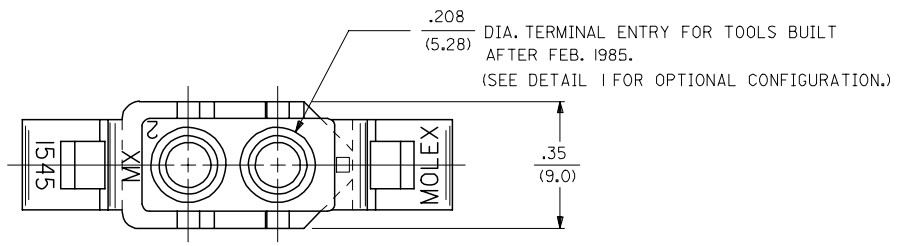
ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
8	Thermal Cycling	Mate connectors; expose to temperature cycling between -25°C and 70°C for 500 cycles with a dwell time of 30 minutes at each extreme. Measurements to be taken initially and after every 100 cycles.	10 milliohms MAXIMUM (change from initial) & Visual: No Damage

6.0 PACKAGING

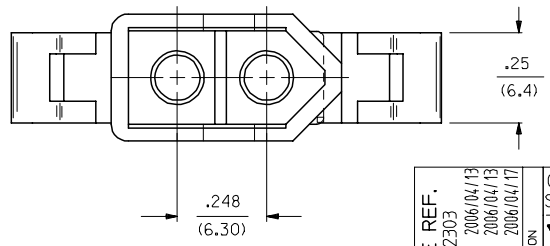
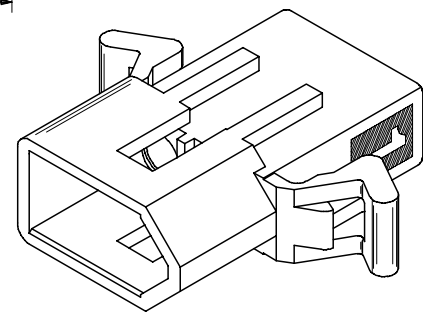
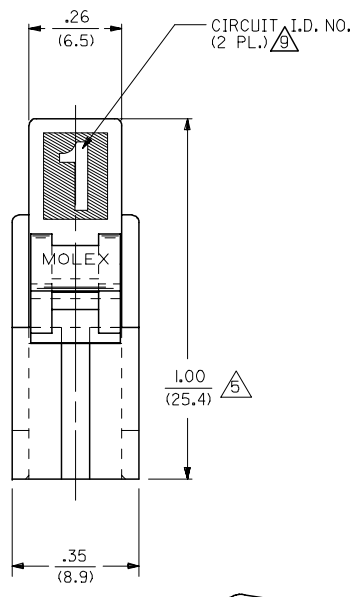
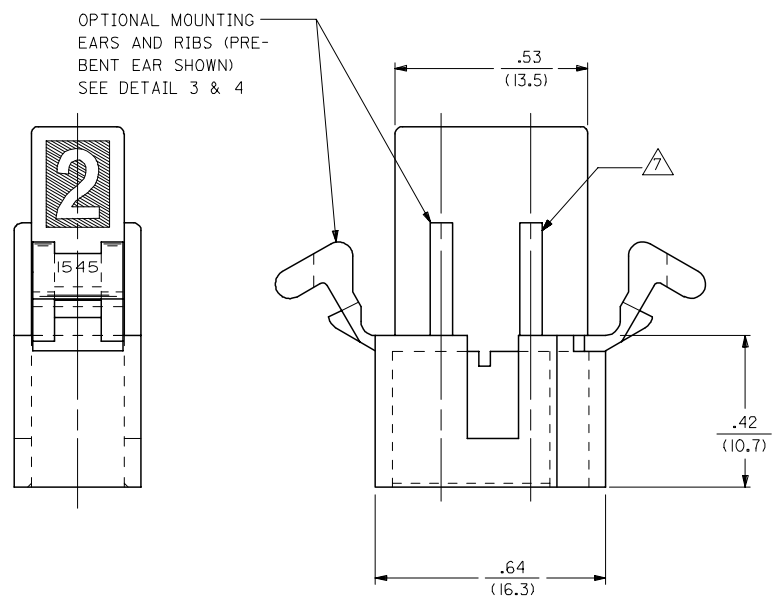
Parts shall be packaged to protect against damage during handling, transit and storage. See the appropriate sales drawings for additional information on packaging requirements.

REVISION: B	ECR/ECN INFORMATION: EC No: UCR#2003-0230 DATE: 2002 / 08 / 07	TITLE: PRODUCT SPECIFICATION STANDARD .093 SERIES PLUGS & RECEPTACLES	SHEET No. 3 of 3
DOCUMENT NUMBER: PS-43660-9999	CREATED / REVISED BY: BWIRKUS 10/4/01	CHECKED BY: BWIRKUS 10/4/01	APPROVED BY: SFRY 10/5/01

13 12 11 10 9 8 7 6 5 4 3 2 1



DETAIL "I"



UPDATE NOTE REF. FC NO: UCP2006-2303 DRAWN/PRI/DOR 2006/04/13 CHKD: AEL/HAG 2006/04/13 APPR: FSM/TH 2006/04/17	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE IN/MM		SCALE 4:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION	
		4 PLACES ± --- ± ---	3 PLACES ± --- ± .010	DRAWN BY GEP	DATE 8/9/88	TITLE .093/(2.36) HOUSING, PLUG & RECEPTACLE, 2 CKT., .248/(6.30) CTR.			
		2 PLACES ± 0.25 ± .014	1 PLACE ± 0.35 ± ---	CHECKED BY RW	DATE 8/9/88	MOLEX INCORPORATED			
		ANGULAR ±1/2°		APPROVED BY RAS	DATE 8/9/88	MATERIAL NO. SD-1545-* DOCUMENT NO. SHEET NO. 1 OF 3			
U1	DESCRIPTION	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE CHART		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

12 11 10 9 8 7 6 5 4 3 2 1

PLUG

PART NO.	ENG. NO.
03-09-2021	I545-P
03-09-2022	I545-P1
03-09-7021	I545-PBK
03-09-7022	I545-PIBK
03-09-2023	I545-P2
03-09-7024	I545-PIRD
03-09-7023	I545-PIBU

RECEPTACLE

PART NO.	ENG. NO.
03-09-6021	I545-R3BK
03-09-6023	I545-R3RD
03-09-6024	I545-R3BU
03-09-1022	I545-R1
03-09-1023	I545-R2
03-09-6025	I545-RIBU
03-09-1027	I545-R3

LEGEND : PLUG

1545-P***-*

OPTIONS: _____

BLANK = WITH STD. EARS
 1 = WITHOUT EARS
 2 = WITH PREBENT EARS

COLOR: BLANK=NATURAL COLOR
 AM=AMBER BK=BLACK BU=BLUE
 BN=BROWN CY=GRAY GN=GREEN
 OR=ORANGE RD=RED YW=YELLOW

BLANK = MATERIAL CODE A

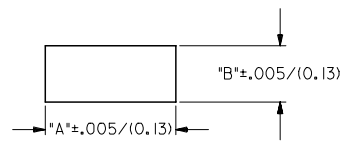
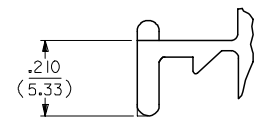
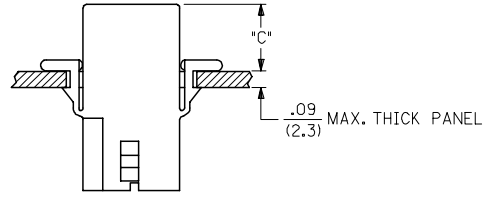
LEGEND : RECEPTACLE

1545-R***-*

BLANK = WITH STD. EARS & RAMPS
 1 = WITHOUT EARS, WITH RAMPS
 2 = WITHOUT EARS, WITHOUT RAMPS
 3 = WITH PREBENT EARS & RAMPS

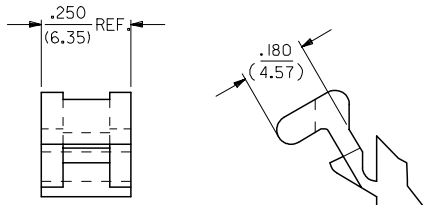
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BLANK = MATERIAL CODE A



RECOMMENDED PANEL OPENING
(SCALE 2:1)

DETAIL 3
.093/(2.36) STANDARD MOUNTING EAR
(SCALE 4:1)



DETAIL 4
.093/(2.36) PREBENT MOUNTING EAR
(SCALE 4:1)

NOTES:

- MATERIAL: - NYLON, PA66, 94V-2.
- FINISH: NONE.
- PRODUCT SPECIFICATION: PS-02-09.
- PACKAGING INFORMATION: PK-1545-001
- .97/(24.6) REF. FOR TOOLS BUILT PRIOR TO FEB. 1985.
- 1.00/(25.4) REF. FOR TOOLS BUILT PRIOR TO FEB. 1985.
- RIBS ARE PRESENT ONLY ON PARTS WITH MOUNTING EARS.
- EACH TERMINAL POCKET WILL ACCEPT UP TO:
 - (2) #18 AWG WIRES HAVING 1/32" THK. INSULATION OR
 - (1) #16 AWG WIRE HAVING 1/16" THK. INSULATION OR
 - (1) #16 AWG & (1) 18 AWG WIRE HAVING 1/32" THK. INSULATION .
- CIRCUIT I.D. NUMBERS ON SIDE OF HOUSING APPEAR ON PARTS FROM TOOLS BUILT AFTER 11/25/91.

HOUSING	DIM. "A"	DIM. "B"	DIM. "C" (PREBENT)	DIM. "C" (STD. EAR)
PLUG	.800/(20.32)	.375/(9.53)	.40/(10.2)	.39/(9.9)
RECEPTACLE	.725/(18.42)	.312/(7.92)	.41/(10.4)	.40/(10.2)

UPDATE NOTES FC NO: UCP2006-2303 DRAWN: P1DDER 2006/04/13 CHKD: AELHAG 2006/04/13 APPR: FSM TH 2006/04/17	DESCRIPTION U1	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE IN/MM	SCALE 2:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION
		4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25 ± .014 1 PLACE ± 0.35 ± --- ANGULAR ± 1 °	DRAWN BY GEP 8/9/88 CHECKED BY RW 8/9/88 APPROVED BY RAS 8/9/88	TITLE .093/(2.36) HOUSING, PLUG & RECEPTACLE, 2 CKT., .248/(6.30) CTR.	MOLEX INCORPORATED		SHEET NO. 3 OF 3
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE CHART	SD-1545-*		
		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					