TABLE 1 - TERMINAL CRIMP DIMENSION (FOR REFERENCE ONLY)

PART NUMBER										
TIN ALL OVER	PALLADIUM		GOLD		GRIP CODE	WIRE SIZE	CONDUCTOR CH (SECT Z-Z, +/-0.05)	CONDUCTOR CW (SECT Z-Z, +/-0.10)	INSULATION CH (SECT Y-Y, +/-0.10)	INSULATION CW (SECT Y-Y, +/-0.10)
	AREA 1 (IN-LINE)	AREA 2 (SHORTING BAR)	AREA 1 (IN-LINE)	AREA 2 (SHORTING BAR)						
54001626	54001628	54001629	54001633	54001634	16	16	1.20	2.05	2.45	2.60
						18	1.15	2.05	2.15	2.60
54002001	54002003	54002004	54002008	54002009	20	20	1.05	1.65	2.00	2.40
						22	0.95	1.65	1.80	2.40

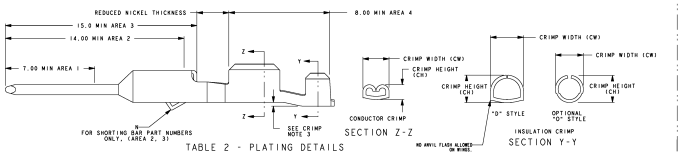


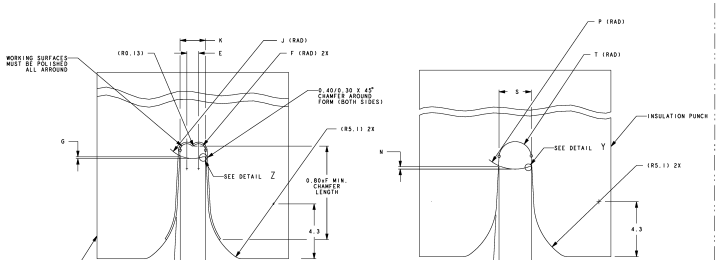
TABLE 2 - PLATING DETAILS

MATERIAL	PLATING TYPE/PROCESS		THICKNESS	APPLICABLE SPEC.	PLATING AREA
TYPE 1 TIN	100% ELECTROMATTE TIN		0.0012 - 0.0025	NONE	ALL OVER
TYPE 2 PALLADIUM OR GOLD	a)	SULFAMATE DUCTILE NICKEL	0.000127 - 0.0025 (MEASURED AT POINT N FOR AREA 2, 3)	ASTM B 689-90 TYPE 2	#3
	b)	NICKEL FLASH	0.000127 MAX	ASTM B 689-90 TYPE 2	#4
	c)	100% PURE ELECTROMATTE TIN (POST PLATED)	0.0012 - 0.0025	NONE	#4
	d)	PALLADIUM OPTION GOLD FLASH - 99% PURE PER ASTM B488 TYPE 2 CODE C OVER PALLADIUM	PD - 0.000508 MIN AU - 0.000051 MIN (MEASURED AT POINT N FOR AREA 2, 3)	ASTM B 488-95	#1 OR #2 SEE P/N
	e)	GOLD OPTION GOLD - 99% PURE PER ASTM B488 TYPE 2 CODE C	AU - 0.00076 MIN (MEASURE AT POINT N FOR AREA 2, 3)	ASTM B 488-95	#1 OR #2 SEE P/N

PLATING NOTES:

1. TIN PLATE NOT TO OVERLAP PRECIOUS METAL

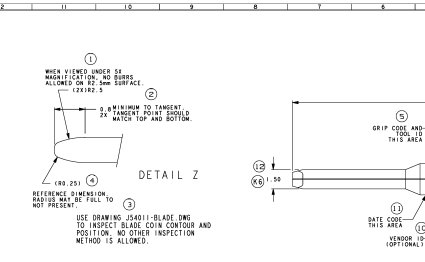
2. TIN AND NICKEL OVERLAP IS NECESSARY TO AVOID EXPOSURE OF BARE METAL

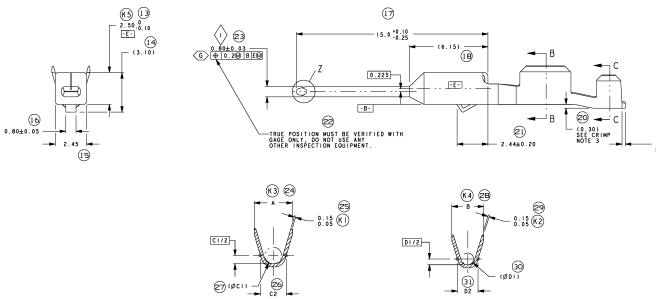


CRIMP TOOL INFORMATION (REF. ONLY)

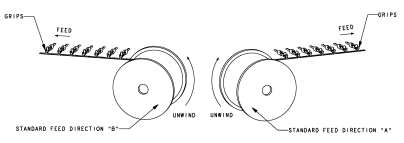
TABLE 3 - TERMINAL GRIP / CRIMP TOOL DIMENSION TABLE (CRIMP TOOL DIMENSIONS (E-T) FOR REFERENCE ONLY)

PART NUMBER					GRIP CODE	WIRE SPECIFICATION	A	B	(ØC1)	C2	(ØD1)	D2	E+/-0.02	F+/-0.02	G+/-0.02	J+/-0.02	K+/-0.02	M+/-0.02	N+/-0.02 FOR "O" STYLE	N+/-0.02 FOR "C" STYLE	P+/-0.02 FOR "C" STYLE	P+/-0.02 FOR "O" STYLE	R+/-0.02	S+/-0.02	T+/-0.02
TIN ALL OVER	PALLADIUM		GOLD																						
	AREA 1 (IN-LINE)	AREA 2 (SHORTING BAR)	AREA 1 (IN-LINE)	AREA 2 (SHORTING BAR)																					
54001626	54001628	54001629	54001633	54001634	16	ESS-WIL123-A/HG 8268	3.0	3.7	1.00	1.6	1.75	2.4	0.92	0.53	0.13	2.56	1.99	1.97	0.18	0.67	2.34	1.15	2.52	2.53	1.23
54002001	54002003	54002004	54002008	54002009	20	ESS-WIL123-A/HG 8268	2.5	3.1	0.76	1.4	1.40	2.0	0.74	0.43	0.09	2.06	1.59	1.59	0.16	0.60	2.16	1.10	2.33	2.33	1.17





NOTE: CUSTOMER REQUESTS FOR REWIND PARTS WILL INCLUDE AN "RW" AT THE END OF THE BILL OF MATERIAL (B.O.M) PART NUMBER I.E. 54003XXXXRWA



VIEW NOT TO SCALE

CRIMP NOTES:

1. THE CRIMP AND CRIMP TOOLING DIMENSIONS HAVE BEEN ESTABLISHED AND VALIDATED TO USCAR-21 USING FCI TOOLS, MACHINES AND PROCESSES. THE DIMENSIONS SHOWN ARE FOR REFERENCE.

2. WIRING SUPPLIERS ARE TO DEVELOP AND VALIDATE THEIR CRIMPING SPECIFICATIONS AND PROCESSES ACCORDING TO ALL ASPECTS OF USCAR-21 REV 2. NOTE THAT AS STATED IN USCAR-21, WIRING SUPPLIER DEFINED CRIMPING SPECIFICATIONS AND CRIMPING PROCESSES MAY IMPACT CONNECTOR FUNCTIONS. (SEE USCAR-21 REV. 2, 4.2.5.1); CONTACT FCI ENGINEERING FOR ANY NEEDED ASSISTANCE IN THIS REGARD.

3. DESIGN REFERENCE INFORMATION: IT IS RECOMMENDED THAT THE NOTED NOMINAL OFFSET BETWEEN THE CONDUCTOR GRIP AND INSULATION GRIP NOT BE CHANGED BY THE CRIMPING PROCESS. RESIZING THIS FEATURE DURING CRIMPING CAN NEGATIVELY IMPACT CONNECTOR SYSTEM FUNCTION. ACCEPTABILITY OF THE ACTUAL NOTED CRIMPED OFFSET, CRIMPING SPECIFICATION, AND CRIMPING PROCESS USED IS TO BE DETERMINED AS DEFINED IN CRIMP NOTE 2.

4. DESIGN REFERENCE INFORMATION: CRIMPED TERMINALS ARE USED ON VARIOUS CONNECTOR APPLICATIONS. NORMALLY, FOR DESIGN PURPOSES, A CONDUCTOR AND INSULATION CRIMP ANGLE TOLERANCE OF +/- 3 DEGREES RELATIVE TO TERMINAL DATUM "C" CAN BE ASSUMED. ACTUAL CRIMP TOLERANCES DEFINED WITHIN A HARNESS MAKER'S CRIMPING PROCESS FOR A SPECIFIC CONNECTOR APPLICATION MUST BE VERIFIED AS SUITABLE BY FULL VALIDATION TO ALL ASPECTS OF USCAR-21 INCLUDING SECTION 4.2.5.

NOTES:

(32 1) (K) INDICATES IN-PROCESS INSPECTION FOR MANUFACTURING DIMENSIONS OR SPECIFICATIONS - A

(◇) QUALITY ASSURANCE REQUIREMENTS SPC DATA REQUIRED !!

(33 2) MUST COMPLY WITH ALL APPLICABLE REQUIREMENTS OF: SAE/USCAR-2 REV 4, SAE/USCAR-12 REV 2 SAE/USCAR-21 REV 1

(34 3) MATERIAL:
① 1.1M PLATING OPTION : 0.254 +/-0.008 C19400
100% ELECTROMATTE TIN PLATED
0.0012/0.0026 THICK)
TENSILE STRENGTH 379 - 483 MPa
YIELD STRENGTH 310 MPa MIN
ELONGATION 10% SIMP. 2% MIN
② PALLADIUM & GOLD PLATING : SAME AS OPTION 1 EXCEPT BARE (UNPLATED)
SEE CHART FOR POST PLATING CALLOUTS

(35 4) IT IS PERMISSIBLE TO PERFORM CONTINUOUS CONFORMANCE PER FCI SPECIFICATION A60A-001 INSTEAD OF ANNUAL LAYOUT AND ANNUAL PV REQUIREMENTS OF QS-9000 SECTION 2
-CHANGES TO PRODUCT DIMENSIONS ARE REQUIRED
-CURRENT PRODUCTION TOOLING
-POINT OF LAST RUN

(36 5) UNLESS OTHERWISE SPECIFIED
3 PLACE DIM ±0.25
2 PLACE DIM ±0.1
ANGULAR DIM ±2°

(37 6) ◇ DENOTES GAGE REQUIREMENTS FOR USER AND MANUFACTURER

11883	L	120411	C11	REVISED NOTE 3.
11475	K	111104	D11	ADDED REVOL "J" AND RELATED NOTES ADDED 90°±2° INSULATION CRIMP AND RELATED DIMENSIONS AND NOTES
11863	J	111031	M9	REVISED TRUE POSITION CALLOUT AND BASIC DIM.
10787	H3	111108	N29	UPDATE PLATING CHART; REMOVE 'E1' DIMENSION ADD 4 MORE INSERT CRIMP TOOL NO.
10582	H2	111018	N26	ADDED NICKEL FLASH SPECIFICATIONS ADDED REVISED NICKEL THICKNESS SPECIFICATIONS
10409	H1	110908	Q21	10.00 MIN W1 TO 8.88 FOR HEX 2
10396	H	110908	M18 Q19 Q20 M15	UPDATED PALLADIUM PLATING THICKNESS TO 0.0005088 (0.000130 INCHES). UPDATED PLATING DETAILS FOR NOTE 1 & 4 MOVED POINT OF MEASUREMENT 'N' TO 18.18 DIMENSION ADDED PLATING DETAILS
9987	G1	110307	H19 T8	DELETED A CUSTOMER DRAWING IN NEW FORMAT. SEE REV 'G' FOR PREVIOUS CHANGES. UPDATED TRANSITION AREA NICKEL PLATING DETAILS WIRING DIRECTION VIEW ADDED TO THE DRAWING

LAST BALLOON: 37

DWG STATUS					ZONE	REVISION HISTORY	AUTH	DR	APVD	APVD
DATE	STS	REV	N/P	CHG						
11MR13	R	09	-	-		ALL PARTS - CLEARED REV COLUMN, UPDATED PASTE UP PRINT AND ADDED INSPECTION SYMBOLS/BALLOONS(15520260,15520261, 15520262,15520265,15520254,13795935, 15520256,15520257,13500641 & 15520259 - RELEASED	421190	CSD	JAA	DAB
16APJ3	R	10	-	-		13768448,13783476,13500641,13851003, 13755243, 13795935 - UPDATED "DELPHI P/N UNPLATED" AND MAT'L SPEC WAS M6576H94	422138	AHS	JAA	DAB
08AUJ3	R	11	-	-		ALL PARTS - INSPECTION SYMBOL/BALLOON #17 WAS 15.0	423505	IMF	JAA	BC
20AUJ3	R	12	-	-		15540865 - RELEASED	423622	CSD	JAA	DAB
13FEJ4	R	13	-	-		15540863 - RELEASED	425529	CSD	CSD	DAB
22APJ4	R	14	-	-		33162170 - RELEASED	426313	CSD	CSD	DAB
28SEJ5	R	15	-	-		13624759,13630404,13768448,13783476, 13795935,13851003, 15520254, 15520256-57, 15520259-60,15520262, 33500641- UPDATED PDM ATTRIBUTES	430918	APB	APB	RDL
15JN16	R	16	-	-		ALL PARTS - UPDATED PDM ATTRIBUTES	433395	CSD	CSD	JOD

54001633	L	13768448	01	AK	15520260	01	AD	M6575H94
54002008	L	13783476	01	AJ	15520262	01	AD	M6575H94
54002004RWA	L	15520259	01	AC	-	-	-	33500641
54002004	L	33500641	01	AD	15520262	01	AD	M6575H94
54002003RWC	L	15520257	01	AC	-	-	-	13851003
54002003RWA	L	15540865	01	AA	-	-	-	13851003
54002003	L	13851003	01	AG	15520262	01	AD	M6575H94
54002001RWA	L	15520256	01	AC	-	-	-	13624759
54002001	L	13624759	01	AK	-	-	-	M6576H94
54001629	L	13755243	01	AJ	15520260	01	AD	M6575H94
54001628RWA	L	15548863	01	AA	-	-	-	13795935
54001628	L	13795935	01	AD	15520260	01	AD	M6575H94
54001626RWC	L	33162170	01	AA	-	-	-	13630404
54001626RWA	L	15520254	01	AC	-	-	-	13630404
54001626	L	13630404	01	AK	-	-	-	M6576H94
PART NUMBER	REV	PART NUMBER	REV.	N/P	PART NUMBER	REV.	N/P	MAT'L SPEC
		PLATED			UNPLATED			
MVL		DELPHI						

NOTES

1. UNLESS OTHERWISE SPECIFIED AND/OR INDICATED:

DIMENSIONS ARE TO FACE OF VIEW SHOWN AND AUTOMATICALLY ROUNDED BY COMPUTER FOR INSPECTION (SEE MATH MODEL FOR PRECISE DIMENSIONS). FOR ALL OTHER DIMENSIONS NOT SHOWN BUT REQUIRED FOR TOOL BUILD, SEE MATH MODEL FOR PRECISE TOOL PATH DATA.

TOLERANCE UNLESS OTHERWISE SPECIFIED:
DECIMAL: ANGULAR ±2°
TWO PLACE SEE DRAWING
THREE PLACE SEE DRAWING

THIRD ANGLE PROJECTION

DO NOT SCALE
USE MATH DATA

NX

* LINE DRAWN THROUGH A PART NUMBER INDICATES THAT PHYSICAL PARTS ARE NOT AVAILABLE FOR ORDERING.

PART NUMBERS THAT DO NOT HAVE A LINE PRESENT INDICATE THAT PHYSICAL PARTS ARE AVAILABLE FOR ORDERING.

CONTACT DELPHI SALES TO ASSURE AVAILABILITY OF PARTS.

DWG TYPE: PART DRAWING

STYLE

VOLUME (CM³) | DISTR CODE

UNLESS OTHERWISE SPECIFIED
THIS DOCUMENT IS IN ACCORDANCE WITH ASME Y14.5M-1994 AS ENDORSED BY THE UK GLOBAL DIMENSIONING AND TOLERANCING HANDBOOK-1981. SEPARATE PATTERNS OF FEATURES MAY BE SHARED SEPARATELY REGARDLESS OF DATUM REFERENCES.

ALL DIMENSIONS ARE IN MILLIMETERS

REFERENCE

DELPHI
DELPHI PACKARD ELECTRICAL/ELECTRONIC ARCHITECTURE
WARREN, OH

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	DATE
DR	
APVD1 CARLOS DELGADILLO	11MR13
APVD2 J. S. ALVARADO	11MR13
APVD3 DANIEL A. BUCCINO	11MR13
APVD4	
APVD5	

SUBSTANCES OF CONCERN AND RECYCLED CONTENT PER DELPHI LD94T001

MATERIAL: SEE CHART

DRAWING NAME: TAXI TERM M APEX 1.5

DRAWING NUMBER: 13678140

SIZE	SCALE	TYPANE NO	SHEET NO	STS	REV	N/P
AD	NONE	1 OF 1	1 OF 1	R	16	-

J54011-CUST L