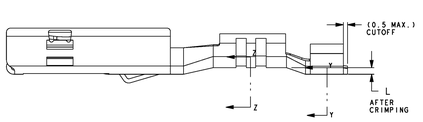
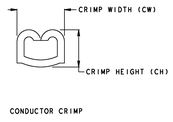
DWG STATUS					ZONE	REVISION HISTORY	AUTH	DR	APVD 1	APVD 2
DATE	STG	REV	N/P	CHG						
14JA08	R	01	-	-		ALL PARTS - RELEASED	297188	VMC	VMC	JCR
29AP08	R	02	-	-		ALL PARTS - DWG UPDATED TO LATEST PRINT	299868	CDC	CDC	AV
26SE08	R	03	-	-		13725913 - WAS SEPARATE DWG	304088	CDC	CDC	AV
26AU09	R	04	-	-		13779834 - RELEASED & REVISED NOTES	310542	AVE	AVE	DT
16MY11	R	05	-	-		"SHT 1 OF 2" WAS "SHT 1 OF 1"; ALL PARTS - DWG UPDATED TO LATEST PRINT; REVISED NOTES	318290	JJD	JJD	SM
24JA13	R	06	-	-		ADDED SHEET 1: "SHT 2 OF 3" WAS "SHT 1 OF 2"; REVISED TITLE BLOCK	324933	CPL	CPL	JCR
11APJ3	R	07	-	-		"SHT 1 OF 1" WAS "SHT 1 OF 3"; 15508298, 15508297,15521501,13958662,15521504, 15521506; 15540789 & 15540790- RELEASED; ALL PARTS - UPDATED MVL PASTE UP DWG AND INSPECTION SYMBOLS/BALLOONS	421196	JEG	JAA	DAB
29APJ3	R	08	-	-		ALL PARTS - REVISED "PLATED PARTIALLY NOTCHED, FORMED RIBS PART NUMBER" AND "PREPROCESS PLATING INFO" HEADER CALLOUTS ON CHART; 13779834 - BASE "PLATED PARTIALLY" P/N WAS 15540790	422329	CGD	JAA	DAB

TABLE 1 - TERMINAL CRIMP DIMENSION (FOR REFERENCE ONLY)

SUPPLIER P/N TIN	SUPPLIER P/N 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)
54001625	54001627	16	16	1.20	2.05	2.45	2.60
			18	1.15	2.05	2.15	2.60
54002000	54002002	20	20	1.05	1.65	2.00	2.40
			22	0.95	1.65	1.80	2.40

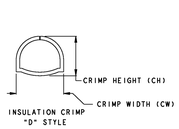


SCALE 10:1



CONDUCTOR CRIMP

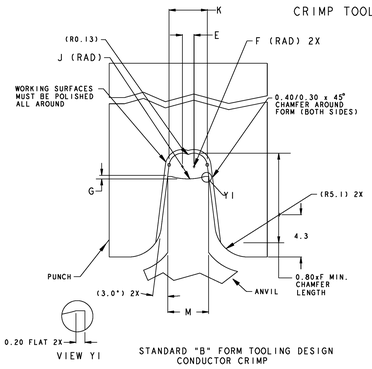
SECTION Z-Z



INSULATION CRIMP "D" STYLE

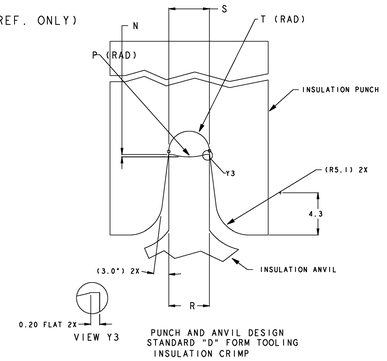
SECTION Y-Y

CRIMP TOOL INFORMATION (REF. ONLY)



VIEW Y1

STANDARD "B" FORM TOOLING DESIGN
CONDUCTOR CRIMP

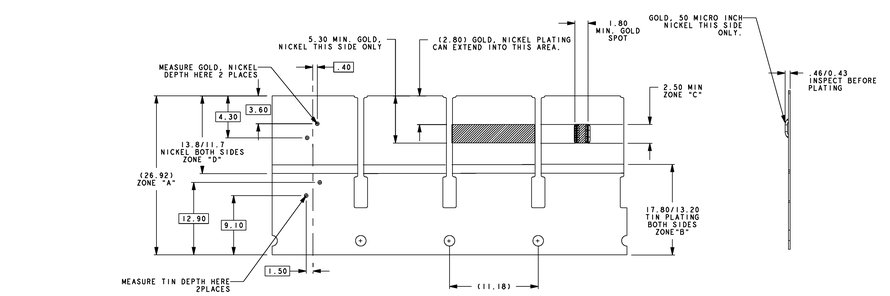


VIEW Y3

PUNCH AND ANVIL DESIGN
STANDARD "D" FORM TOOLING
INSULATION CRIMP

TABLE 2 - TERMINAL CRIMP TOOL DIMENSION TABLE (FOR REFERENCE ONLY)

GRIP CODE	WIRE SPECIFICATION	E+/-0.005	F+/-0.005	G+/-0.005	J+/-0.005	K+/-0.005	M+/-0.005	N+/-0.005	P+/-0.005	R+/-0.005	S+/-0.005	T+/-0.005
20	ESB-MIL123-A/ MS-8288	0.74	0.43	0.09	2.06	1.59	1.59	0.16	2.16	2.33	2.33	1.17
16	ESB-MIL123-A/ MS-8288	0.92	0.53	0.13	2.56	1.99	1.97	0.18	2.34	2.52	2.53	1.23



PLATING (BOTH SIDES):
USE MATERIAL TYPE 2 FOR TIN
USE MATERIAL TYPE 4 FOR GOLD

SPRING PLATING REQUIREMENT

MATERIAL TYPE SEE NOTES.	BODY: TYPE 3 SPRING: TYPE 4	BODY: TYPE 3 SPRING: TYPE 4	BODY: TYPE 1 SPRING: TYPE 2
PLATING TYPE:	GOLD STRIPE	GOLD SPOT	TIN PLATE
ZONE A:	N/A	N/A	0.00127/0.00381 100% ELECTRO MATTE TIN
ZONE B:	0.00127/0.00381 100% ELECTRO MATTE TIN	0.00127/0.00381 100% ELECTRO MATTE TIN	N/A
ZONE C:	0.00076 MIN HARD GOLD TO ASTM B-488 TYPE II CLASS C, OVER 0.0.001270.00254 SULFAMATE DUCTILE NICKEL.	0.00076 MIN HARD GOLD TO ASTM B-488 TYPE II CLASS C, OVER 0.0.001270.00254 SULFAMATE DUCTILE NICKEL.	N/A
ZONE D:	0.00051 MIN SULFAMATE DUCTILE NICKEL BOTH SIDES	0.00051 MIN SULFAMATE DUCTILE NICKEL BOTH SIDES	N/A

PLATING OPTIONS:

NOTE:
THIS VIEW FOR INCOMOING INSPECTION PURPOSES. PARTS TO BE CHECKED FOR SELECTIVE PLATING LOCATION AND THICKNESS PER PLATING CERTIFICATIONS BEFORE FINAL FORMING OPERATION.

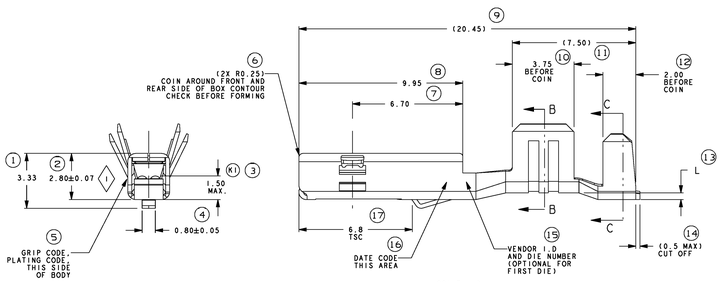
TIN PLATE NOT TO OVERLAP PRECIOUS METAL.

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

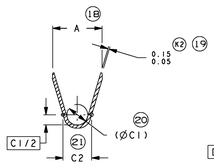
GOLD STRIPE AND GOLD SPOT PLATINGS ARE INTERCHANGEABLE.

PRE-NOTCH NOT REQUIRED FOR TIN PLATED PARTS.

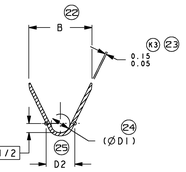
SCALE 1:1
ACTUAL SIZE VIEWS



SCALE 10:1



SECTION B-B
CORE GRIP



SECTION C-C
INSULATION GRIP

PART NUMBER TIN PLATED	GRIP PLATING CODE, TIN	PART NUMBER GOLD STRIPE, SPOT PLATED	GRIP PLATING CODE, GOLD	WIRE SPECIFICATION	A	B	(ØC1)	C2	(ØD1)	D2	L
54002000	20	54002002	20GS	ESB-MIL123-A/ MS-8288	2.5	3.1	0.76	1.4	1.40	2.0	0.40
54001625	16	54001627	16GS	ESB-MIL123-A/ MS-8288	3.0	3.7	1.00	1.6	1.75	2.4	0.40

NOTES:

(26) 1) ◇ QUALITY ASSURANCE REQUIREMENTS
SPC DATA REQUIRED :I

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

(28) 3) MATERIAL TYPE 1:
TERMINAL: 0.254 +/-0.01 C19400 TO ASTM B-465
0.00127/0.0025 THICK 100% ELECTRO MATTE TIN
TENSILE STRENGTH: 379 - 483 MPa
YIELD STRENGTH: 379 MPa MIN
ELONGATION IN 51MM: 2% MIN

MATERIAL TYPE 2:
SPRING: 0.203 +/- 0.008 C7026 TO ASTM B-422
0.00051/0.00254 THICK HOT TIN DIP PLATED
TENSILE STRENGTH: 689 - 862 MPa
YIELD STRENGTH: 689 MPa MIN
ELONGATION IN 51MM: 1% MIN

MATERIAL TYPE 3:
TERMINAL: 0.254 +/-0.01 C19400 TO ASTM B-465
BARE FOR GOLD PLATED PRE-FORMED BLANKS
TENSILE STRENGTH: 379 - 483 MPa
YIELD STRENGTH: 379 MPa MIN
ELONGATION IN 51MM: 2% MIN

MATERIAL TYPE 4:
SPRING: 0.203 +/- 0.008 C7026 TO ASTM B-422
0.00127/0.0025 THICK SULFAMATE DUCTILE NICKEL
TENSILE STRENGTH: 689 - 862 MPa
YIELD STRENGTH: 689 MPa MIN
ELONGATION IN 51MM: 1% MIN

(29) 4) SEE USCAR DRAWING EWCAP-001 FOR DIRECT CONNECT MATING BLADE INFORMATION

(30) 5) IT IS PERMISSIBLE TO PERFORM CONTINUOUS CONFORMANCE PER FCI SPECIFICATION #AQA-001 INSTEAD OF ANNUAL LAYOUT AND ANNUAL PV REQUIREMENTS OF QS-9000 SECTION 2

(31) 6) -CURRENT PRODUCTION TOOLING
-POINT OF LAST RUN

| PLACE DIM ±0.25
2 PLACE DIM ±0.1
ANGULAR DIM ±2°

(32) 7) "TSC" ON A DIMENSION TO BE INTERPRETED AS A DISTANCE TO A THEORETICAL SHARP CORNER AS IF RADIUS WERE NOT PRESENT

(33) 8) (K) INDICATES IN-PROCESS INSPECTION FOR MANUFACTURING DIMENSION(S) OR SPECIFICATION(S) (3)

11893	--	03/29/11	ADDED GOLD SPOT PLATING VIEWS, CHARTS, UPDATED DRAWING, NO PHYSICAL CHANGES TO THE TERMINAL.
10304	--	03/29/11	IMPLEMENTED NEW CUSTOMER TITLE BLOCK DIMENSION 6.8 WAS 6.80, 80.0810.20 WAS 8.25

ECN NO. | ZONE | DATE | CHANGE DESCRIPTION

LAST BALLOON: (33)

PROJECT MFG. APEX 150	TOLERANCES SEE NOTES	MATERIAL SEE NOTES	FINISH SEE NOTES	CAD SYSTEM NX 6802	SIZE A3
DRAWING NO. J54011-CUST	COLOR -	DRAWN TYPE -		MFG SYSTEM NX 6802	WT/LB -
DO NOT MEASURE DRAWING	TOOL NO. 0629	DES Con. Code A8			
DATE NAME	TITLE 150mm APEX 150 FEMALE TERMINAL			DRAWING NUMBER J54009-CUST	REV. 1
CREATED 07/31/08 G.LECCE					SHEET 1 OF 1
CHECKED 07/31/08 V.NATAK	PROJECT -			PART NUMBER	REV. 1
ENGINEER 07/31/08 V.NATAK				STATE	
APPROVED 07/31/08 B.CUE	DRW NO. 8243	CAT. NO. -		SEE TABLE 1	SCALE 10.00
FILE NAME J54009-CUST					

MATERIAL TYPE SEE NOTES.	BODY: TYPE 3 SPRING: TYPE 4	BODY: TYPE 3 SPRING: TYPE 4	BODY: TYPE 1 SPRING: TYPE 2	SPRING MAT'L SPEC	PLATED PARTIALLY NOTCHED, FORMED RIBS PART NUMBER	REV	N/P	PLATED PARTIALLY NOTCHED, FORMED RIBS MAT'L SPEC	PARTIALLY NOTCHED, FORMED RIBS MAT'L SPEC	UNPLATED MAT'L SPEC
PLATING TYPE:	GOLD STRIPE	GOLD SPOT	TIN PLATE							
ZONE A:	N/A	N/A	0.00127/0.00381 100% ELECTRO MATTE TIN							
ZONE B:	0.00127/0.00381 100% ELECTRO MATTE TIN	0.00127/0.00381 100% ELECTRO MATTE TIN	N/A							
ZONE C:	0.00076 MIN HARD GOLD TO ASTM B-488 TYPE II CLASS C, OVER 0.0.001270.00254 SULFAMATE DUCTILE NICKEL.	0.00076 MIN HARD GOLD TO ASTM B-488 TYPE II CLASS C, OVER 0.0.001270.00254 SULFAMATE DUCTILE NICKEL.	N/A							
ZONE D:	0.00051 MIN SULFAMATE DUCTILE NICKEL BOTH SIDES	0.00051 MIN SULFAMATE DUCTILE NICKEL BOTH SIDES	N/A							
54002002	G	13725913	01	AD	M6592AX2	M6587H86	15540789	01	AA	M6592AX2	M6589AB2	M6575H93
54002002RWA	G	15508298	01	AA	13725913	-	-	-	-	-	-	-
54001627	G	13779834	01	AC	M6592AX2	M6587H86	15540789	01	AA	M6592AX2	M6589AB2	M6575H93
54001627RWA	G	15508297	01	AA	13779834	-	-	-	-	-	-	-
54001627RWC	G	15521501	01	AA	13779834	-	-	-	-	-	-	-
54002000	G	13624983	01	AD	M6576H93	M6585H86	-	-	-	-	-	-
54002000RWC	G	13958662	01	AA	13624983	-	-	-	-	-	-	-
54002000RWA	G	15521504	01	AA	13624983	-	-	-	-	-	-	-
54001625	G	13613157	01	AD	M6576H93	M6585H86	-	-	-	-	-	-
54001625RWA	G	15521506	01	AA	13613157	-	-	-	-	-	-	-
PART NUMBER	REV	PART NUMBER	REV	N/P	BASE MAT'L SPEC OR MADE FROM PART NUMBER		PLATED PARTIALLY NOTCHED, FORMED RIBS PART NUMBER	REV	N/P	PLATED PARTIALLY NOTCHED, FORMED RIBS MAT'L SPEC	PARTIALLY NOTCHED, FORMED RIBS MAT'L SPEC	UNPLATED MAT'L SPEC
MVL							DELPHI			PREPROCESS PLATING INFORMATION		

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:
DECIMALS ANGULAR ±2°
TWO PLACE SEE DRAWING
THREE PLACE SEE DRAWING

A ——— 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 (QAP): DISTR CODE:

UNLESS OTHERWISE SPECIFIED
THIS DOCUMENT IS IN ACCORDANCE WITH ASME Y14.5M-1994 AS AMENDED BY THE GM GLOBAL DIMENSIONING AND TOLERANCING ADDENDUM-2001. SEPARATE PATTERNS OF FEATURES MAY BE BASED SEPARATELY PER/REGARDLESS OF DATUM REFERENCES.

ALL DIMENSIONS ARE IN MILLIMETERS
REFERENCE

THIRD ANGLE PROJECTION | DO NOT SCALE | USE MATH DATA | NX

	DATE
DR	
APVD1 MAZA, VERONICA	14JA08
APVD2 MAZA, VERONICA	14JA08
APVD3 REYNOSA, JUAN C	15JA08
APVD4	
APVD5	

SUBSTANCES OF CONCERN AND RECYCLED CONTENT PER DELPHI 10949001

MATERIAL: SEE CHART

DRAWING NAME: TAXI TERM F APEX 1.5

DRAWING NUMBER: 13684624

SIZE	SCALE	FRANE NO	SHEET NO	STG	REV	N/P
A0	NONE	1 OF 1	1 OF 1	R	08	-

Print: 13684624_sht1_rev08.dft
Plot: 13684624 - CLC001-501
Date: 29-Apr-13 Time: 15:32
Designer: [illegible]