

DWG. NO. VL0998

VL0998 REV C
02.5 FN145 OHC

SHEET 1 OF 3

VL0998 REV C
02.5 FN145 OHC

SHEET 2 OF 3

VL0998 REV C
02.5 FN145 OHC

SHEET 3 OF 3

MANUALLY ASSEMBLED PARTS:				
LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
1	PCB FAB OH FN145 REV C	VJ4004-C	1	TH_FAKEPART
2,3	SCREW M3X6 PAN HEAD TAPPING	VL6631	2	TH_FAKEPART
C12	CAP EL RD 220U 20% 50	VH5220	1	TH_VH5220_LD_BD
C19,C54,C122	CAP EL RD NON-PDL 33U 20% 50	V91949	3	TH_V91949
C31,C41	CAP EL RD 4.7U 20% 100	VC2589	2	TH_VC2589
C5	CAP EL RD L ESR 100U 20% 35	V36106	1	TH_V36106
CR5,CR35	LED ASM GREEN	VL3101	2	TH_LED_VG3656
DS1	DISPLAY VF CIG 02.5 FN1145	VK9978	1	TH_DSPL_VA4901
J1	CONN 28 PIN *GET* RA HDR .100 CTR	VL2484	1	TH_CON_VL2484
J2	CONN 4 PIN .112 CTR	VJ5187	1	TH_CON_VJ5187
J3	CONN HDR 3 PIN RA .138 CTR	VH2452	1	TH_CON_VH2452

COMPONENT LOCATIONS NOT POPULATED:
C1,C111,C115,C134,C136,C137,C172,C173,C191,C192,C193,C2,C22,C36,C57,C58,C74,C75,C76,C77,C79,C81,C82,C83,C84,C85,C86,C92,C95,CR14,CR15,CR21,CR22,CR23,CR24,CR26,CR27,CR31,CR32,CR37,CR38,CR39,CR44,CR52,E102,E103,J4,L128,L129,L3,Q15,Q20,Q21,Q23,Q25,Q26,R1,R10,R124,R14,R140,R145,R172,R26,R29,R53,R60,R62,R63,R67,R68,R73,R74,R83,R96,R98,S1,S11,S2,S3,S4,S8,S9,U108,Y103

SURFACE MOUNTED COMPONENTS:				
LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
C10,C18,C20,C21	CAP CER X7R 2200P 20% 50	V99307	4	603NC
C100	CAP CER CDG 5.6P .25PF 50	V99303	1	603NC
C101	CAP CER X7R 470P 10% 50	VF5069	1	402
C104	CAP EL SMD 33U 20% 25	VE2185	1	ELCAP_D63
C105,C124	CAP CER CDG 470P 5% 50	V99355	2	603NC
C11,C62,C63,C64,C65	CAP CER CDG 330P 5% 50	VB4273	5	603NC
C110,C112	CAP CER CDG 18P 5% 50	VA1022	2	603NC
C120	CAP CER X7R .22U 10% 30	VE2669	1	1206NC
C121	CAP CER X7R 680P 10% 50	VG4877	1	402
C126	CAP CER X7R 1U 10% 10	VG3406	1	805NC
C132	CAP TANT A-CASE .47U 20% 25	V68469	1	TANTA_NC
C14,C25,C106,C123	CAP CER CDG 100P 5% 50	V98743	4	603NC
C140	CAP CER Y5V 1U 80/-20% 25	VE8695	1	805NC
C16	CAP CER X7R 3300P 10% 50	VA9174	1	603NC
C17,C131	CAP CER X7R .1U 10% 50	V27850	2	1206NC
C220,C221	CAP CER CDG 220P 5% 25	VC8916	2	402
C23,C26	CAP CER CDG 120P 5% 50	V78004	2	805NC
C24,C102,C109,C113,C119,C130,C133,C135	CAP CER X7R .1U 10% 16	VB7587	8	603NC
C27	CAP CER X7R 6800P 10% 50	VA1503	1	603NC
C29,C190	CAP CER X7R 1000P 10% 50	V98741	2	603NC
C3,C8,C30,C35,C39,C43,C50,C55,C66,C70	CAP CER X7R .1U 10% 50	V68110	10	805NC
C32,C33,C60,C61	CAP CER X7R 330P 20% 100	VJ0803	4	805NC
C34,C44,C45,C46,C80	CAP CER X7R .01U 10% 50	V53925	5	805NC
C37,C38	CAP CER CDG 100P 5% 50	V57585	2	805NC
C4,C13,C15,C42,C78,C87	CAP CER X7R .027U 10% 50	VF6106	6	805NC
C47	CAP CER X7R 1000P 20% 100	VB4276	1	805NC
C48,C49	CAP CER X7R 2200P 20% 100	VB4275	2	805NC
C51,C52	CAP CER NPO 100P 5% 200	VJ5429	2	805NC
C6,C7,C28,C53,C56,C59,C96,C97,C103,C108,C114,C116,C117,C128,C67,C68	CAP CER X7R .01U 10% 50	V98739	14	603NC
C72	CAP CER CDG 22P 5% 50	V99301	2	603NC
C9,C40,C142	CAP TANT C-CASE 4.7U 20% 25	V65373	1	TANTC_NC
	CAP CER CDG 1000P 2% 50	VG1106	3	805NC

SURFACE MOUNTED COMPONENTS:				
LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
CR1,CR43,CR45,CR46,CR48	DIODE DUAL CMN CATH BAV70	V56966	5	SOT23NC
CR106	DIODE DUAL SERIES BAV99	V56967	1	SOT23NC
CR107,CR120	DIODE VARACTOR SMS1400-611	VF5348	2	SOD323
CR11,CR20,CR40,CR51	DIODE ZENER 225mW 18V	VE7019	4	SOD123
CR114	DIODE SCHOTTKY	VF5076	1	SOD323
CR116	DIODE VARACTOR DUAL SMV1253-004	VK1295	1	SOT23NC
CR119,CR121	DIODE ZENER 500mW 7.5V	VF3204	2	SOD123
CR12	DIODE ZENER .225W 16V MMBZ5246BLT1	VG1110	1	SOT23NC
CR16,CR17	DIODE SCHOTTKY 40V RB160L	VJ5424	2	SMB_VJ5424
CR18,CR108	DIODE SIG 75mA 100V 1N914	V30082	2	SOT23NC
CR25,CR28,CR29,CR30,CR33,CR34,CR54	LED SMD (TRUE GREEN)	VH5052	7	HSMG_TX
CR3,CR6	DIODE RECT MOTOROLA MURS120T3	VA8253	2	SMB
CR4	DIODE ZENER .225W 10V MMBZ5240BLT1	VA8254	1	SOT23NC
CR7,CR8	DIODE DUAL ZENER 27V 40W	VG1107	2	SOT23NC
CR9,CR13	DIODE REC SMA 1A 400V FAST RR	VB1292	2	SMA
E101	ANTENNA LQDP 7X35mm	VF3203	1	LQDP_VF3203_7MM
E104	SHIELD SMD 4 PIN 7X8 MM	VG8930	1	SHIELD_VG8930
L1,L102,L109,L110	FERRITE BEAD SMD 600 25%	VA7170	4	805NC
L101,L103	INDUCTOR SMD 12N 5%	VC8071	2	603NC
L104	INDUCTOR SMD 1000U 5%	VB8919	1	1812NC
L130,L131	INDUCTOR SMD 56N 5%	VJ0059	2	603NC
Q1,Q2,Q5	TRANS MOSFET N-CH	V56974	3	DPAK
Q102	TRANS NPN DIG 2.2KB/47KBE	VE3972	1	SOT23NC
Q104	TRANS NPN DIGITAL 47KB/47KBE	VC5856	1	SOT23NC
Q105,Q106	TRANS NPN 4401	V27855	2	SOT23NC
Q11,Q12	TRANS NPN MMBT3904	VC5882	2	SOT23NC
Q112	TRANS NPN DIG 10KB/47KBE	VE4961	1	SOT23NC
Q3,Q7	TRANS PNP BCPS1	VE2701	2	SOT223
Q4,Q16,Q17,Q19	TRANS NPN DIG 10KB/10KBE	VA2501	4	SOT23NC
Q6,Q60	TRANS PNP DIG 4.7KB/10KBE RDHM	VC0694	2	SOT23NC
Q8	TRANS PNP DPAK MJD32C	V72638	1	DPAK
Q9,Q10	TRANS PNP MMBT3906	VC5883	2	SOT23NC
R101,R102	RES CER 0 5% 100	V68124	2	805NC
R103,R107,R117	RES CER 10K 5% .037	VB8037	3	402
R104	RES CER 18K 5% .063	VA5599	1	603NC
R110	RES CER 1.5K 5% .100	V57419	1	805NC
R111	RES CER 24 5% .250	V90542	1	1210
R112	RES CER 4.32K 1% .063	VE9896	1	603NC
R113	RES CER 1.33K 1% .063	VG3631	1	603NC
R114	RES CER 40.2K 1% .100	VE9897	1	805NC
R115	RES CER 1.3K 5% .063	V98734	1	603NC
R12,R32,R200	RES CER 820 5% .5	VE3111	3	2010
R120	RES CER 3K 5% .063	V98732	1	603NC
R121	RES CER 1.47K 1% .063	VC4658	1	603NC
R122	RES CER 2.37K 1% .063	VE2825	1	603NC
R129	RES CER 154K 1% .063	VB4271	1	603NC
R13,R35,R41	RES CER 1K 5% .063	V98733	3	603NC
R141	RES CER 301 1% .037	VH5065	1	402
R142	RES CER 300 5% .063	VC4467	1	603NC
R147,R160	RES CER 10 5% .100	V72639	2	805NC
R15	RES CER 0 5% .063	VA1511	1	603NC
R16	RES CER 18 5% .063	VMO790	1	603NC
R161,R162	RES CER 47K 5% .100	V72641	2	805NC
R17	RES CER 2.00K 1% .125	V30207	1	1206NC
R176,R186	RES CER 1K 5% .037	VB8043	2	402
R187	RES CER 51K 5% .037	VB8048	1	402
R2,R18	RES CER 100K 5% .100	V57422	2	805NC
R20,R131	RES CER 560K 5% .063	VB4268	2	603NC
R22,R75,R106,				

SURFACE MOUNTED COMPONENTS:				
LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
R126	RES CER 100K 5% .063	VA6119	4	603NC
R23	RES CER 33 5% .100	V68130	1	805NC
R24,R86	RES CER 1.0MEG 5% .063	V98731	2	603NC
R25	RES CER 681 1% .125	V36122	1	1206NC
R27	RES CER 2.55K 1% .100	VE8696	1	805NC
R3,R30	RES CER 1.6 5% .250	VB4272	2	1210
R33,R46	RES CER 5.23 1% .125	VJ5428	2	1206NC
R34,R38	RES CER 12.1K 1% .100	VJ5425	2	805NC
R36	RES CER 360 5% .100	V68548	1	805NC
R37	RES CER 56 5% .063	VB4269	1	603NC
R39,R40	RES CER 154.0K 1% .100	VA8257	2	805NC
R4,R5,R8,R11	RES CER 432 1% .063	VA5608	4	603NC
R42,R66	RES CER 560 5% .5	V97532	2	2010
R45,R44	RES CER 10 5% .063	VB4815	2	603NC
R47,R51	RES CER 7.5K 5% .063	VE3118	2	603NC
R48,R59	RES CER 470K 5% .063	VC2865	2	603NC
R49,R50	RES CER 200 1% .100	VJ5427	2	805NC
R52	RES CER 75K 5% .063	VA5601	1	603NC
R54,R91,R92,R93,R99	RES CER 4.7K 5% .063	VA5628	5	603NC
R55,R56	RES CER 619 1% .100	VJ5426	2	805NC
R58	RES CER 360 5% .5	VB2735	1	2010
R6,R19	RES CER 470 5% .100	V71181	2	805NC
R61	RES CER 10K 5% .125	V27868	1	1206NC
R7,R63,R81,R105,R109,R128,R130,R137	RES CER 10K 1% .063	VA5609	8	603NC
R71,R88	RES CER 100 5% .063	VB8384	2	603NC
R76,R77,R78,R79,R80,R94,R95,R123,R148	RES CER 2K 5% .063	V98730	9	603NC
R85	RES CER 18K 5% .125	V55507	1	1206NC
R9,R87	RES CER 47K 5% .063	VA6441	2	603NC
RNS	RES 2-ARRAYS 10K 5% .063	VE2526	1	RPAK_CRA1A2
RNB,RN9	RES 4-ARRAYS 100 5% .063	VE3978	2	RPAK_CRB3A
S5,S6,S7,S10,S12,S13,S14	SWITCH MDM SMD (250gf) 1.3mm	VF2613	7	SW_VB8115
T1,T2	SENSOR MAGNETO SHLD 0 DEGREE	VB0349	2	SNRS_0_DEG_NEW
T3	TRANSFORMER SMD 16 TURNS	VC6087	1	TRANSFMR_VB2048
U1	IC MICRO D2 FN145 08A260 (FLSH) REV 4	VM3601	1	OPF_64
U101	IC MICRO PSI 16C76 DTP 15.0	VL0126	1	SDIC28W
U102	IC NVM 4K 93LC66	VE2996	1	SDIC8
U104	IC 14-BIT BINARY MOTO MC14060BD	VE8699	1	SDIC16
U105	IC REG 5V LP2951 SDIC8	V61881	1	SDIC8
U106	IC HIGH VOLTAGE SWITCH	VC6882	1	TSOP_6
U107	IC ASIC HMLK-3 DS1.3	VH3121	1	SSDP30
U2	IC REG 5V 78M05	V63733	1	DPAK
U3	IC ASIC I11	V94137	1	SDIC20V
U4	IC LBCC NARROW BODY	VJ5779	1	SDIC16
U5	IC PWM UCX843	VA8251	1	SDIC8
U6	IC HEX INVERTER 4049	V63909	1	SDIC16
U8	IC CMOS DR GATE 2-INPUT	VK0411	1	SOT353
U9	IC TIME KEEPING CHIP DS1302ZN	VJ6250	1	SDIC8
Y1	RESONATOR CER 4.00MHz 47PF	VC3706	1	RESN_V78762
Y101	CRYSTAL 20.000MHz +/- 30PPM	VG8564	1	XTAL_SMD49
Y102	FILTER SMD 10.7MHz	VG8563	1	FLTR_SPECV10
Y2	CRYSTAL SMD 32.768kHz	VG3202	1	XTAL_OMP25A

JOHNSON
CONTROLS
AUTOMOTIVE SYSTEMS GROUP INTERIORS

PCB ASSEMBLY

ELECTRONICS STD. UNLESS OTHERWISE SPECIFIED

THIRD ANGLE PROJECTION

DO NOT SCALE

X.X DECIMAL ± 0.040 [± 1.0]
X.XX DECIMAL ± 0.020 [± .50]
X.XXX DECIMAL ± 0.006 [± .15]

ANGULAR ± 2° 0'
DRAFT ANGLES NOTED

SPECIFICS FEATURES REQUIRING SPECIAL CONSIDERATIONS.
SEE PRODUCT CONTROL PLAN.

DIMENSIONS ARE INCHES WITH EQUIVALENT MILLIMETERS SHOWN IN BRACKETS.

PROJECT	02.5 FN145 OHC	DRWN. BY	DATE
CUSTOMER	FORD	CHKD. BY	DATE
SIZE	D	ENGR. APPR	DATE
TOOL NO. REF.		SCALE	NONE
DATA FORMAT	ACAD	SHEET	2 OF 5
DWG. NO.	VL0998	REV.	C

VL1000 REV C
02.5 FN145 OHC

SHEET 1 OF 3

VL1000 REV C
02.5 FN145 OHC

SHEET 2 OF 3

VL1000 REV C
02.5 FN145 OHC

SHEET 3 OF 3

MANUALLY ASSEMBLED PARTS:

LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
1	PCB FAB OH FN145 REV C	VJ4004-C	1	TH_FAKEPART
2, 3	SCREW M3X6 PAN HEAD TAPPING	VL6631	2	TH_FAKEPART
C12	CAP EL RD .220U 20% 50	VH5220	1	TH_VH5220_LD_BD
C19, C54, C122	CAP EL RD NON-POL 33U 20% 50	V91949	3	TH_V91949
C31, C41	CAP EL RD 4.7U 20% 100	VC2589	2	TH_VC2589
C5	CAP EL RD L ESR 100U 20% 35	V36106	1	TH_V36106
CR5, CR35	LED ASM GREEN	VL3101	2	TH_LED_VG3656
DS1	DISPLAY VF CIG 02.5 FN145	VK9978	1	TH_DSPL_VA4901
J1	CONN 28 PIN WGT* RA HDR .100 CTR	VL2484	1	TH_CON_VL2484
J2	CONN 4 PIN .112 CTR	VJ5187	1	TH_CON_VJ5187
J3	CONN HDR 3 PIN RA .138 CTR	VH2452	1	TH_CON_VH2452
S2, S3	SWITCH TACTILE RA MDN 160gF	VJ5185	2	TH_SW_VJ5185

COMPONENT LOCATIONS NOT POPULATED:

C1, C111, C115, C134, C136, C137, C172, C173, C191, C192, C193, C2, C22, C36, C57, C58, C74, C79, C81, C82, C83, C86, C92, C95, CR21, CR22, CR23, CR24, CR26, CR27, CR37, CR44, CR52, E102, E103, J4, L128, L129, L3, Q20, Q21, Q23, Q25, Q26, R1, R10, R14, R140, R172, R26, R53, R62, R65, R67, R73, R83, R96, R98, S11, S4, S8, S9, U108, Y103

SURFACE MOUNTED COMPONENTS:

LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
C10, C18, C20, C21	CAP CER X7R 2200P 20% 50	V99307	4	603NC
C100	CAP CER CDG 5.6P .25PF 50	V99303	1	603NC
C101	CAP CER X7R 470P 10% 50	VF5069	1	402
C104	CAP EL SMD 33U 20% 25	VE2185	1	ELCAP_D63
C105, C124	CAP CER CDG 470P 5% 50	V99355	2	603NC
C11, C62, C63, C64, C65	CAP CER CDG 330P 5% 50	VB4273	5	603NC
C110, C112	CAP CER CDG 18P 5% 50	VA1022	2	603NC
C120	CAP CER X7R .22U 10% 50	VE2669	1	1206NC
C121	CAP CER X7R 680P 10% 50	VG4877	1	402
C126	CAP CER X7R 1U 10% 10	VG3406	1	805NC
C132	CAP TANT A-CASE .47U 20% 25	V68469	1	TANTAN_NC
C14, C25, C106, C123	CAP CER CDG 100P 5% 50	V98743	4	603NC
C140	CAP CER Y5V 1U 80/-20% 25	VE8695	1	805NC
C16	CAP CER X7R 3300P 10% 50	VA9174	1	603NC
C17, C131	CAP CER X7R .1U 10% 50	V27850	2	1206NC
C220, C221	CAP CER CDG 220P 5% 25	VC8916	2	402
C23, C26	CAP CER CDG 120P 5% 50	V78004	2	805NC
C24, C102, C109, C113, C119, C130, C133, C135	CAP CER X7R .1U 10% 16	VB7587	8	603NC
C27	CAP CER X7R 6800P 10% 50	VA1503	1	603NC
C29, C190	CAP CER X7R 1000P 10% 50	V98741	2	603NC
C3, C8, C30, C35, C39, C43, C50, C55, C66, C70	CAP CER X7R .1U 10% 50	V68110	10	805NC
C32, C33, C60, C61	CAP CER X7R 330P 20% 100	VJ0803	4	805NC
C34, C44, C45, C46, C75, C76, C77, C80, C85	CAP CER X7R .01U 10% 50	V53925	9	805NC
C37, C38	CAP CER CDG 100P 5% 50	V57585	2	805NC
C4, C13, C15, C42, C78, C87	CAP CER X7R .027U 10% 50	VF6106	6	805NC
C47	CAP CER X7R 1000P 20% 100	VB4276	1	805NC
C48, C49	CAP CER X7R 2200P 20% 100	VB4275	2	805NC
C51, C52	CAP CER NPO 100P 5% 200	VJ5429	2	805NC
C6, C7, C28, C53, C56, C59, C84, C96, C97, C103, C108, C114, C116, C117, C128	CAP CER X7R .01U 10% 50	V98739	15	603NC
C67, C68	CAP CER CDG 22P 5% 50	V99301	2	603NC
C72	CAP TANT C-CASE 4.7U 20% 25	V65373	1	TANTAN_NC
C9, C40, C142	CAP CER CDG 1000P 2% 50	VG1106	3	805NC

LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
CR1, CR43, CR45, CR46, CR48	DIODE DUAL CMN CATH BAV70	V56966	5	SDT23NC
CR106	DIODE DUAL SERIES BAV99	V56967	1	SDT23NC
CR107, CR120	DIODE VARACTOR SMS1400-611	VF5348	2	SD0323
CR11, CR20, CR40, CR51	DIODE ZENER .225W 18V	VE7019	4	SDD123
CR114	DIODE SCHOTTKY	VF5076	1	SDD323
CR116	DIODE VARACTOR DUAL SMV1253-004	VK1295	1	SDT23NC
CR119, CR121	DIODE ZENER 300mW 7.5V	VF3204	2	SDD123
CR12	DIODE ZENER .225W 16V MMBZ5246BLT1	VG1110	1	SDT23NC
CR14, CR15, CR25, CR28, CR29, CR30, CR31, CR32, CR33, CR34, CR38, CR54	LED SMD (TRUE GREEN)	VH5052	12	HSMG_TX
CR16, CR17	DIODE, SCHOTTKY 40V RB160L	VJ5424	2	SMB_VJ5424
CR18, CR108	DIODE SIG 75mA 100V 1N914	V30082	2	SDT23NC
CR3, CR6	DIODE RECT MOTOROLA MURS120T3	VAB253	2	SMB
CR39	LED SMD (AMBER)	VJ4184	1	HSMG_TX
CR4	DIODE ZENER .225W 10V MMBZ5240BLT1	VAB254	1	SDT23NC
CR7, CR8	DIODE DUAL ZENER 27V 40W	VG1107	2	SDT23NC
CR9, CR13	DIODE REC SMA 1A 400V FAST RR	VB1292	2	SMA
E101	ANTENNA LOOP 7X35mm	VF3203	1	LOOP_VF3203_7MM
E104	SHIELD SMD 4 PIN 7X8 MM	VGB930	1	SHIELD_VGB930
L1, L102, L109, L110	FERRITE BEAD SMD 600 25%	VA7170	4	805NC
L101, L103	INDUCTOR SMD 12N 5%	VC8071	2	603NC
L104	INDUCTOR SMD 1000U 5%	VC8919	1	1812NC
L130, L131	INDUCTOR SMD 56N 5%	VJ0059	2	603NC
Q1, Q2, Q5	TRANS MOSFET N-CH	V56974	3	DPAK
Q102	TRANS NPN DIG 2.2KB/47KBE	VE3972	1	SDT23NC
Q104	TRANS NPN DIGITAL 47KB/47KBE	VC5856	1	SDT23NC
Q105, Q106	TRANS NPN 4401	V27855	2	SDT23NC
Q11, Q12	TRANS NPN MMBT3904	VC5882	2	SDT23NC
Q112	TRANS NPN DIG 10KB/47KBE	VE4961	1	SDT23NC
Q3, Q7	TRANS PNP BCPS1	V52701	2	SDT223
Q4, Q15, Q16, Q17, Q19	TRANS NPN DIG 10KB/10KBE	VA2501	5	SDT23NC
Q6, Q60	TRANS PNP DIG 4.7KB/10KBE RDHM	VC0694	2	SDT23NC
Q8	TRANS PNP DPAK MJ032C	V72638	1	DPAK
Q9, Q10	TRANS PNP MMBT3906	VC5883	2	SDT23NC
R101, R102	RES CER 0 5% .100	V68124	2	805NC
R103, R107, R117	RES CER 10K 5% .037	VB8037	3	402
R104	RES CER 18K 5% .063	VA5599	1	603NC
R110	RES CER 1.5K 5% .100	V57419	1	805NC
R111	RES CER 24 5% .250	V90542	1	1210
R112	RES CER 4.32K 1% .063	VE9896	1	603NC
R113	RES CER 1.33K 1% .063	VG3631	1	603NC
R114	RES CER 40.2K 1% .100	VE9897	1	805NC
R115	RES CER 1.3K 5% .063	V98734	1	603NC
R12, R32, R200	RES CER 820 5% .5	VE3111	3	2010
R120	RES CER 3K 5% .063	V98732	1	603NC
R121	RES CER 1.47K 1% .063	VC4658	1	603NC
R122	RES CER 2.37K 1% .063	VE2825	1	603NC
R124	RES CER 1.3K 5% .250	VE8059	1	1210
R129	RES CER 154K 1% .063	VB4271	1	603NC
R13, R35, R41	RES CER 1K 5% .063	V98733	3	603NC
R141	RES CER 301 1% .037	VH5065	1	402
R142	RES CER 300 5% .063	VC4467	1	603NC
R147, R160	RES CER 10 5% .100	V72639	2	805NC
R15	RES CER 0 5% .063	VA1511	1	603NC
R16	RES CER 18 5% .063	VJ0790	1	603NC
R161, R162	RES CER 47K 5% .100	V72641	2	805NC
R17	RES CER 2.00K 1% .125	V30207	1	1206NC
R176, R186	RES CER 1K 5% .037	VB8043	2	402
R187	RES CER 51K 5% .037	VB8048	1	402
R2, R18	RES CER 100K 5% .100	V57422	2	805NC
R20, R131	RES CER 560K 5% .063	VB4268	2	603NC
R22, R75, R106,				

SURFACE MOUNTED COMPONENTS:

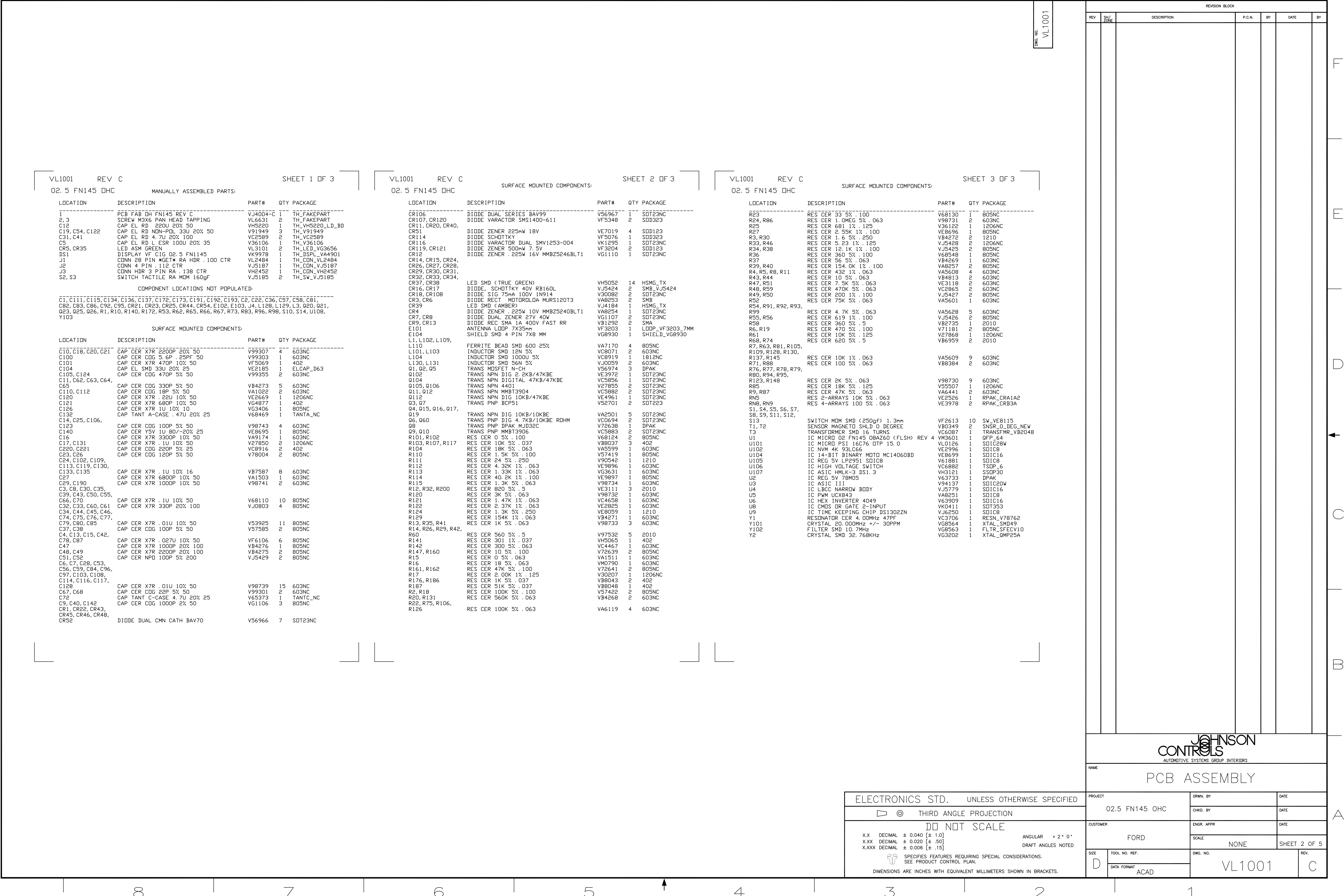
LOCATION	DESCRIPTION	PART#	QTY	PACKAGE
R126	RES CER 100K 5% .063	VA6119	4	603NC
R23	RES CER 33 5% .100	V68130	1	805NC
R24, R86	RES CER 1.0MEG 5% .063	V98731	2	603NC
R25	RES CER 681 1% .125	V36122	1	1206NC
R27	RES CER 2.55K 1% .100	VE8696	1	805NC
R29, R42, R60, R66	RES CER 560 5% .5	V97532	4	2010
R3, R30	RES CER 1.6 5% .250	VB4272	2	1210
R33, R46	RES CER 5.23 1% .125	VJ5428	2	1206NC
R34, R38	RES CER 12.1K 1% .100	VJ5425	2	805NC
R36	RES CER 360 5% .100	V68548	1	805NC
R37	RES CER 56 5% .063	VB4269	1	603NC
R39, R40	RES CER 154.0K 1% .100	VAB257	2	805NC
R4, R5, R8, R11	RES CER 432 1% .063	VA5608	4	603NC
R43, R44	RES CER 10 5% .063	VB4813	2	603NC
R47, R51	RES CER 7.5K 5% .063	VE3118	2	603NC
R48, R59	RES CER 470K 5% .063	VC2865	2	603NC
R49, R50	RES CER 200 1% .100	VJ5427	2	805NC
R52	RES CER 75K 5% .063	VA5601	1	603NC
R54, R91, R92, R93, R99	RES CER 4.7K 5% .063	VA5628	5	603NC
R55, R56	RES CER 619 1% .100	VJ5426	2	805NC
R58	RES CER 360 5% .5	VB2735	1	2010
R6, R19	RES CER 470 5% .100	V71181	2	805NC
R61	RES CER 10K 5% .125	V27868	1	1206NC
R68, R74	RES CER 620 5% .5	VB6959	2	2010
R7, R63, R81, R105, R109, R128, R130, R137, R145	RES CER 10K 1% .063	VA5609	9	603NC
R71, R88	RES CER 100 5% .063	VB8384	2	603NC
R76, R77, R78, R79, R80, R94, R95, R123, R148	RES CER 2K 5% .063	V98730	9	603NC
R85	RES CER 18K 5% .125	V55507	1	1206NC
R9, R87	RES CER 47K 5% .063	VA6441	2	603NC
RNS	RES 2-ARRAYS 10K 5% .063	VE2826	1	RPAA_CRA1A2
RN8, RN9	RES 4-ARRAYS 100 5% .063	VE3978	2	RPAA_CRB3A
S1, S5, S6, S7, S10, S12, S13, S14	SWITCH MDN SMD (250gF) 1.3mm	VF2613	8	SV_VE8115
T1, T2	SENSOR MAGNETO SHLD 0 DEGREE	VB3049	2	SNRSR_0_DEG_NEW
T3	TRANSFORMER SMD 16 TURNS	VC6087	1	TRANSFMR_VB2048
U1	IC MICRO 02 FN145 0BAZ60 <FLSH> REV 4	VM3601	1	QFP_64
U101	IC MICRO PS1 16C76 OTP 15.0	VL0126	1	SDIC28W
U102	IC NVM 4K 93LC66	VE2996	1	SDIC8
U104	IC 14-BIT BINARY MOTO MC14060BD	VE8699	1	SDIC16
U105	IC REG 5V LP2951 SDIC8	V61881	1	SDIC8
U106	IC HIGH VOLTAGE SWITCH	VC6882	1	TSOP_6
U107	IC ASIC HMLK-3 DS1.3	VH3121	1	SSOP30
U2	IC REG 5V 78M05	V63733	1	DPAK
U3	IC ASIC I11	V94137	1	SDIC20W
U4	IC LBCC NARROW BODY	VJ5779	1	SDIC16
U5	IC PWM UDX843	VAB251	1	SDIC8
U6	IC HEX INVERTER 4049	V63909	1	SDIC16
U8	IC CMOS DR GATE 2-INPUT	VK0411	1	SDT353
U9	IC TIME KEEPING CHIP DS1302ZN	VJ6250	1	SDIC8
Y1	RESONATOR CER 4.00MHz 47PF	VC3706	1	RESN_V78762
Y101	CRYSTAL 20.000MHz +/- 30PPM	VG8564	1	XTAL_SMD49
Y102	FILTER SMD 10.7MHz	VG8563	1	FLTR_SFECV10
Y2	CRYSTAL SMD 32.768kHz	VG3202	1	XTAL_QMP25A

JOHNSON
CONTROLS
AUTOMOTIVE SYSTEMS GROUP INTERIORS

PCB ASSEMBLY

ELECTRONICS STD. UNLESS OTHERWISE SPECIFIED	
THIRD ANGLE PROJECTION	
DO NOT SCALE	
X.X DECIMAL ± 0.040 [± 1.0] X.XX DECIMAL ± 0.020 [± .50] X.XXX DECIMAL ± 0.006 [± .15]	
SPECIFICS FEATURES REQUIRING SPECIAL CONSIDERATIONS. SEE PRODUCT CONTROL PLAN.	
DIMENSIONS ARE INCHES WITH EQUIVALENT MILLIMETERS SHOWN IN BRACKETS.	

PROJECT	DRWN. BY	DATE
02.5 FN145 OHC	CHKD. BY	DATE
CUSTOMER	ENGR. APPR	DATE
FORD	SCALE	SHEET 2 OF 5
SIZE	TOOL NO. REF.	DWG. NO.
D	DATA FORMAT	REV.
ACAD	VL1000	C



DWG. NO. VL1001

JOHNSON
CONTROLS
AUTOMOTIVE SYSTEMS GROUP INTERIORS

PCB ASSEMBLY

ELECTRONICS STD. UNLESS OTHERWISE SPECIFIED

THIRD ANGLE PROJECTION

DO NOT SCALE

X.X DECIMAL ± 0.040 [± 1.0]
X.XX DECIMAL ± 0.020 [± .50]
X.XXX DECIMAL ± 0.006 [± .15]

ANGULAR ± 2° 0'
DRAFT ANGLES NOTED

SPECIFICS FEATURES REQUIRING SPECIAL CONSIDERATIONS.
SEE PRODUCT CONTROL PLAN.

DIMENSIONS ARE INCHES WITH EQUIVALENT MILLIMETERS SHOWN IN BRACKETS.

PROJECT 02.5 FN145 OHC

CUSTOMER FORD

DATE

CHCK. BY

ENGR. APPR

DATE

SCALE NONE

SHEET 2 OF 5

SIZE D

TOOL NO. REF.

DATA FORMAT ACAD

DWG. NO. VL1001

REV. C