


1 DRAWING PREPARED IN ACCORDANCE WITH MIL-STD-100. 2 THE FOLLOWING SYMBOLS, WHICH MAY APPEAR ON THIS DRAWING ARE FOR INTERNAL USE ONLY BY COLLINS RADIO GROUP CLASS CAL CAL DATE CIG U/M TA AR RA SSA AND NSR.		<table border="1"> <tr> <th colspan="18">REVISIONS</th> </tr> <tr> <th>LTR</th> <th colspan="12">DESCRIPTION</th> <th colspan="2">DATE</th> <th colspan="2">APVD</th> </tr> <tr> <td>A</td> <td colspan="12">Y45624 - REV P 1,3 & 4. RPLCD P 2. ADDED -020.</td> <td colspan="2">12-16-75</td> <td colspan="2">OG</td> </tr> <tr> <td>B</td> <td colspan="12">Y52145 - REV P 1,4,5. ADDED P 6. ADDED -040.</td> <td colspan="2">2-8-77</td> <td colspan="2">TC</td> </tr> <tr> <td>C</td> <td colspan="12">Y54941 - REV P 2.</td> <td colspan="2">6-29-77</td> <td colspan="2">LJC</td> </tr> <tr> <td>D</td> <td colspan="12">Y57630 - REV P 2.</td> <td colspan="2">11-15-77</td> <td colspan="2">TC</td> </tr> <tr> <td>E</td> <td colspan="12">Y58715 - REV P 3.</td> <td colspan="2">2-22-78</td> <td colspan="2">JR</td> </tr> <tr> <td>F</td> <td colspan="12">Y64339 - REV P 2,3,4. ADDED -050. ADDED P 7.</td> <td colspan="2">12-5-78</td> <td colspan="2">JM</td> </tr> <tr> <td>G</td> <td colspan="12">Y78724 - REV P 4, 6 & 7.</td> <td colspan="2">12-11-80</td> <td colspan="2">JRW</td> </tr> <tr> <td>H</td> <td colspan="12">Y80002 - REV P 6 & 7.</td> <td colspan="2">2-16-81</td> <td colspan="2">JRW</td> </tr> <tr> <td>J</td> <td colspan="12">AD5888 - REV P 1,4. REPL P 7. ADDED -060.-070.-080.</td> <td colspan="2">02-25-85</td> <td colspan="2">KS</td> </tr> <tr> <td>K</td> <td colspan="12">AD7195 - REV P 1.</td> <td colspan="2">06-03-85</td> <td colspan="2">KS/AC</td> </tr> </table>																		REVISIONS																		LTR	DESCRIPTION												DATE		APVD		A	Y45624 - REV P 1,3 & 4. RPLCD P 2. ADDED -020.												12-16-75		OG		B	Y52145 - REV P 1,4,5. ADDED P 6. ADDED -040.												2-8-77		TC		C	Y54941 - REV P 2.												6-29-77		LJC		D	Y57630 - REV P 2.												11-15-77		TC		E	Y58715 - REV P 3.												2-22-78		JR		F	Y64339 - REV P 2,3,4. ADDED -050. ADDED P 7.												12-5-78		JM		G	Y78724 - REV P 4, 6 & 7.												12-11-80		JRW		H	Y80002 - REV P 6 & 7.												2-16-81		JRW		J	AD5888 - REV P 1,4. REPL P 7. ADDED -060.-070.-080.												02-25-85		KS		K	AD7195 - REV P 1.												06-03-85		KS/AC	
		REVISIONS																																																																																																																																																																																																																														
		LTR	DESCRIPTION												DATE		APVD																																																																																																																																																																																																															
		A	Y45624 - REV P 1,3 & 4. RPLCD P 2. ADDED -020.												12-16-75		OG																																																																																																																																																																																																															
		B	Y52145 - REV P 1,4,5. ADDED P 6. ADDED -040.												2-8-77		TC																																																																																																																																																																																																															
		C	Y54941 - REV P 2.												6-29-77		LJC																																																																																																																																																																																																															
		D	Y57630 - REV P 2.												11-15-77		TC																																																																																																																																																																																																															
		E	Y58715 - REV P 3.												2-22-78		JR																																																																																																																																																																																																															
		F	Y64339 - REV P 2,3,4. ADDED -050. ADDED P 7.												12-5-78		JM																																																																																																																																																																																																															
		G	Y78724 - REV P 4, 6 & 7.												12-11-80		JRW																																																																																																																																																																																																															
		H	Y80002 - REV P 6 & 7.												2-16-81		JRW																																																																																																																																																																																																															
		J	AD5888 - REV P 1,4. REPL P 7. ADDED -060.-070.-080.												02-25-85		KS																																																																																																																																																																																																															
K	AD7195 - REV P 1.												06-03-85		KS/AC																																																																																																																																																																																																																	
L ACO168 - CONVERTED TO CDC GLOBAL DOC. 86-09-18 MH																																																																																																																																																																																																																																
1. SCOPE: THIS SPECIFICATION DETAILS THE REQUIREMENTS FOR A LIGHT EMITTING DIODE.																																																																																																																																																																																																																																
DASH NUMBER: SEE TABLE.																																																																																																																																																																																																																																
DIALIGHT CORP., BROOKLYN, N.Y.												TA		72619		SEE TABLE																																																																																																																																																																																																																
INDUSTRIAL DEVICES INC., EDGEWATER, N.J.												AR		91802		SEE TABLE																																																																																																																																																																																																																
SUGGESTED SOURCES OF SUPPLY												CAL		CODE IDENT		VENDOR ITEM NO																																																																																																																																																																																																																
CLASS		2C		CAL DATE		04-29-85		SPECIFICATION CONTROL DRAWING																																																																																																																																																																																																																								
CIG		304		UM (07) PIECES																																																																																																																																																																																																																												
REV STATUS		REV	L	L	L	L	L	L	L																																																																																																																																																																																																																							
OF SHEETS		SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																																																																																																																																																																																																						
CONTRACT NO.				ROCKWELL INTERNATIONAL CORPORATION COLLINS RADIO GROUP DALLAS TEX 75207 NEWPORT BEACH CALIF 92663 CEDAR RAPIDS IA 52406																																																																																																																																																																																																																												
PREP O.M. GRIFFITH 4/25/75				DIODE, LIGHT EMITTING																																																																																																																																																																																																																												
CHK O.M. GRIFFITH 4/25/75																																																																																																																																																																																																																																
APVD B.W. DANIELS 4/25/75																																																																																																																																																																																																																																
				SIZE		FSCM		DWG NO.																																																																																																																																																																																																																								
				A		95105		353-0453																																																																																																																																																																																																																								
				SCALE				SHEET 1 OF 7																																																																																																																																																																																																																								

REL ☒ REV 4 TC BD CR 2 NB 1 DL 1 TO 1

2. APPLICABLE DOCUMENTS

2.1 THE FOLLOWING DOCUMENTS, OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BIDS, FORM A PART OF THIS SPECIFICATION TO THE EXTENT SPECIFIED HEREIN.

MIL-STD-202 TEST METHODS FOR ELECTRONIC AND ELECTRICAL COMPONENT PARTS

MIL-STD-750 TEST METHODS FOR SEMICONDUCTOR DEVICES

3. REQUIREMENTS

3.1 ABSOLUTE MAXIMUM RATING, AT $T_A = +25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED. THE FOLLOWING REPRESENT LIMITING VALUES ABOVE WHICH DEVICES MAY BE DAMAGED OR PARAMETER VALUES PERMANENTLY ALTERED.

<u>PARAMETER</u>		<i>Red</i> <u>-020, -040, -050</u>	<i>Green</i> <u>-010 AND -030</u>
3.1.1	FORWARD DC CURRENT	50 mA	40 mA
3.1.2	REVERSE VOLTAGE	3 VOLTS	3 VOLTS
3.1.3	POWER DISSIPATION AT 25°C	100 mW	112 mW
3.1.3.1	DERATING FACTOR ABOVE 25°C	1.3 mW/ $^\circ\text{C}$	1.49 mW/ $^\circ\text{C}$
3.1.4	STORAGE AND OPERATING TEMPERATURE	-40°C TO $+100^\circ\text{C}$	-20°C TO $+100^\circ\text{C}$
3.1.5	RELATIVE HUMIDITY AT 85°C	85%	85%
3.1.6	SOLDER TEMPERATURE FOR 5 SECONDS (AT 0.1" FROM SEATING PLANE)	250°C	250°C

3.2 ELECTRICAL:

<u>PARAMETER</u>	<u>MA</u>	<u>MIN</u>	<u>TYPICAL</u>	<u>MAX</u>
3.2.1 FORWARD VOLTAGE				
	-020, -040, -050	20	1.9V	3.0V
	-010 AND -030	10	2.2V	2.8V
3.2.2 REVERSE BREAKDOWN VOLTAGE @ 10 μA		3.0V	8.0V	

SIZE A	FSCM 95105	DWG NO. 353-0453
SCALE	REV L	SHEET 2

3.3 MECHANICAL:

3.3.1 CASE: MOLDED PLASTIC CASE; PLASTIC DOMED SHAPED LENS.
SEE PROPER FIGURE FROM TABLE.

3.3.2 LENS COLOR: SEE TABLE.

3.3.3 CONNECTIONS: SEE PROPER FIGURE FROM TABLE.

3.3.4 DIMENSIONS: SEE PROPER FIGURE FROM TABLE.

3.3.5 MARKINGS: SEE PARAGRAPH 5.

3.3.6 WORKMANSHIP AND MATERIALS: HIGH QUALITY MATERIALS, GOOD DESIGN,
AND SOUND ENGINEERING PRACTICES SHALL BE USED IN MANUFACTURING THE
SEMICONDUCTOR DEVICES SPECIFIED HEREIN TO ENSURE CONFORMANCE TO THE
REQUIREMENTS OF THIS SPECIFICATION.

3.4 ENVIRONMENTAL: IN ADDITION TO CONFORMING TO THE ELECTRICAL REQUIRE-
MENTS INITIALLY, THE UNITS SHALL BE CAPABLE OF CONFORMING TO THE
REQUIREMENTS OF THIS SPECIFICATION SUBSEQUENT TO SUBJECTION TO ANY OR
ALL OF THE FOLLOWING TESTS. DURING THESE TESTS THE UNITS SHALL BE IN
A NON-OPERATING CONDITION UNLESS OTHERWISE SPECIFIED.

<u>TEST</u>	<u>MIL-STD-750 TEST METHOD</u>	<u>TEST CONDITIONS</u>
3.4.1 THERMAL SHOCK	1051	5 CYCLES IN ACCORDANCE WITH MIL-STD-202, METHOD 107, TEST CONDITION A.
3.4.2 MOISTURE RESISTANCE	1021	10 CYCLES IN ACCORDANCE WITH MIL-STD-202, METHOD 106, OMIT VIBRATION.
3.4.3 SHOCK	2016	1500 G, 0.5 MSEC. 5 SHOCKS IN EACH ORIENTATION X, Y1, AND Z1.
3.4.4 VIBRATION VARIABLE FREQUENCY.	2056	20 G, 100-2000 Hz.

SIZE A	FSCM 95105	DWG NO. 353-0453
SCALE	REV L	SHEET 3

↓

MIL-STD-750
TEST METHOD

TEST CONDITIONS

3.4.5 **SOLDERABILITY** 2026 IN ACCORDANCE WITH
MIL-STD-202, METHOD 208.

4. **QUALITY ASSURANCE:** MANUFACTURERS SUPPLYING TO THIS SPECIFICATION SHALL BE RESPONSIBLE FOR EMPLOYING ADEQUATE INSPECTION PROCEDURES TO GUARANTEE CONFORMANCE OF THE SUPPLIED PARTS TO THE REQUIREMENTS OF THIS SPECIFICATION. IN ADDITION, COLLINS RADIO GROUP MAY PERFORM TESTS ON ANY PRODUCTION SHIPMENT TO ASSURE CONFORMANCE TO THESE REQUIREMENTS.

5. **PREPARATION FOR DELIVERY:** UNITS SHALL BE PACKAGED IN A MANNER THAT WILL ENSURE ADEQUATE PROTECTION AGAINST CONTAMINATION, CORROSION, DETERIORATION, AND PHYSICAL DAMAGE DURING SHIPMENT. THE VENDOR'S PART NUMBER WILL BE DISPLAYED ON THE CONTAINER.

6. **NOTES:** NONE

<u>DASH NO.</u>	<u>COLOR</u>	<u>FIGURE NO.</u>	<u>DIALIGHT PART NO.</u>	<u>INDUSTRIAL PART NO.</u>
-010	YELLOW	1	550-0305-100	5380E7
-020	RED	1	550-0405-100	5380E1
-030	GREEN	1	550-0205-100	5380E5
-040	RED	2	550-0404-100	5381E1
-050	RED	3	550-0406-100	5300E1
-060	YELLOW	3	-	5300E7
-070	RED	3	-	5300H1
-080	YELLOW	3	-	5300H7

SIZE A	FSCM 95105	DWG NO. 353-0453
SCALE	REV L	SHEET 4

↑

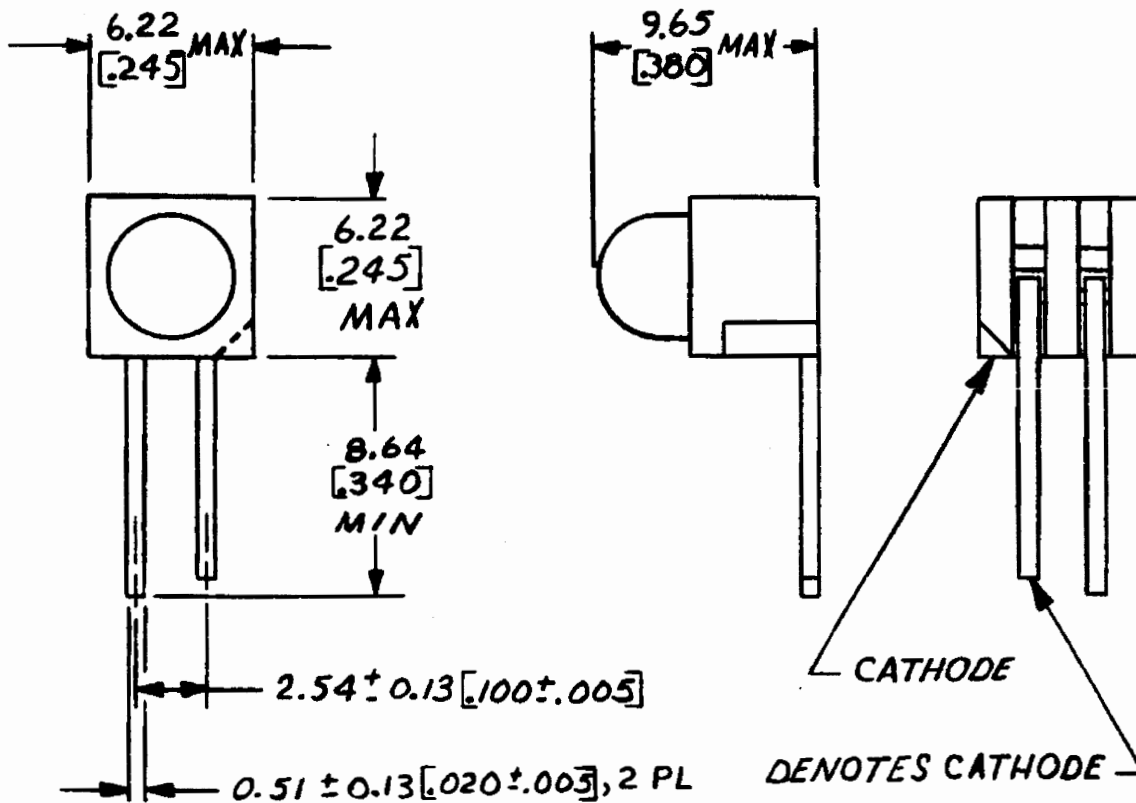

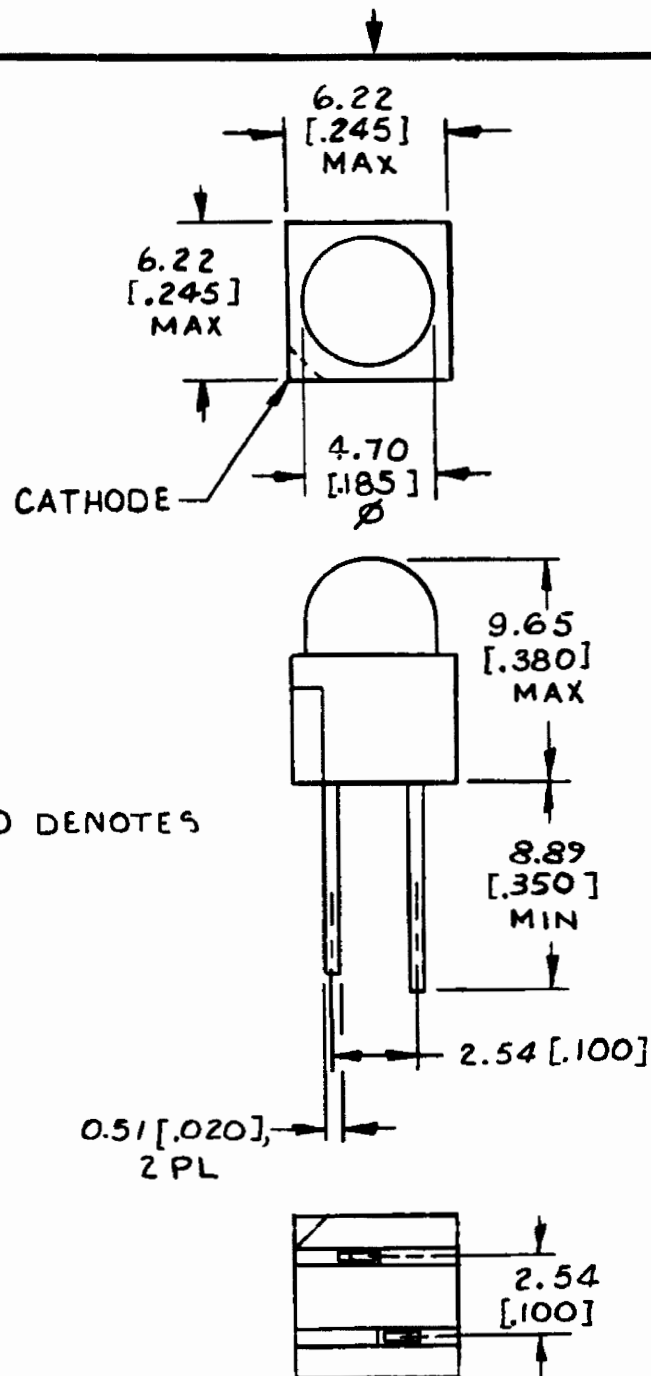



FIGURE 1

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES [INCHES]			
METRIC		US CUSTOMARY []	
TOL ON METRIC DIM:		TOL ON [] DIM:	
DIM: .X = ±0.5		DEC DIM: .XX = ±.02	
.XX = ±0.2		.XXX = ±.008	
ANGLES: ±1.0°		ANGLES: ±1.0°	
THIRD ANGLE PROJECTION 			
SIZE	FSCM	DWG NO.	
A	95105	353-0453	
SCALE	REV	SHEET	5



SHORT LEAD DENOTES
CATHODE

FIGURE 2

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES (INCHES)			
METRIC		US CUSTOMARY ()	
TOL ON METRIC DIM:		TOL ON () DIM:	
DIM: X = ±0.5		DEC DIM: XX = ±.02	
XX = ±0.2		XXX = ±.008	
ANGLES: ±1.0°		ANGLES: ±1.0°	
THIRD ANGLE PROJECTION 			

SIZE A	FSCM 95105	DWG NO. 353-0453	
SCALE	REV L	SHEET 6	

DWG NO. 353-0453 SM 7

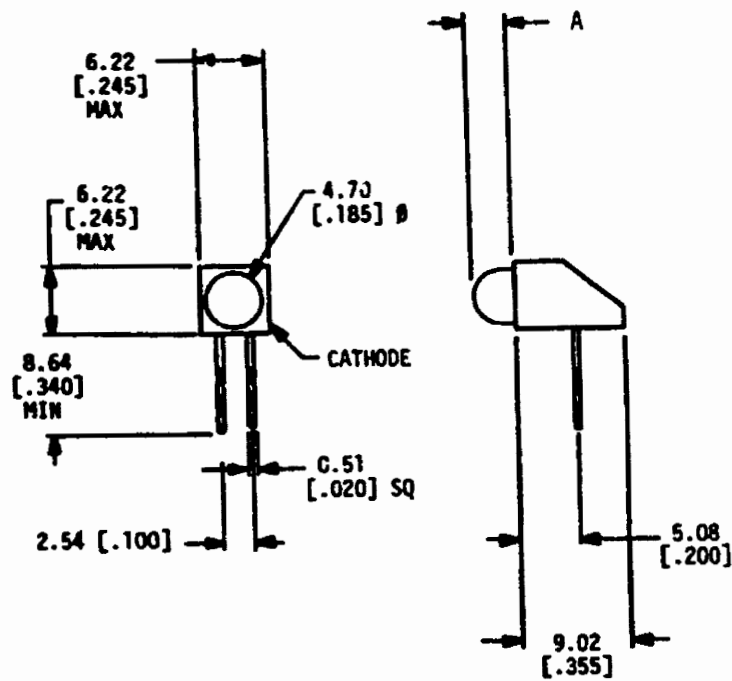


FIGURE 3

DASH NO.	DIM A
-050	3.18(.125)
-060	3.18(.125)
-070	4.83(.190)
-080	4.83(.190)

**ROCKWELL INTERNATIONAL CORPORATION
COLLINS DIVISIONS**

DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52408

PREP	SIZE A	FSCM 95105	DWG NO. 353-0453	REV LTR L
CHK	SCALE		SHEET	7