REVISIONS

LTR	DESCRIPTION	DATE	APVD
K	AD7195 - REV P 1.	85-06-03	KS/AC
L	AR7915 - REVISE FSCM, VENDOR DATA MOVED TO SIDB	91-02-26	KJF
M	BE1611 - MISCELLANEOUS	92-06-25	MAA
N	BW7076 - A & C CONSOLIDATION, CHANGE CAGE CODE.	98-12-21	RDF

STATEMENT A, UNLIMITED

1. SCOPE: THIS SPECIFICATION DETAILS THE REQUIREMENTS FOR A LIGHT EMITTING DIODE.

THE PART NUMBER IS THE SEVEN (7) DIGIT DRAWING NUMBER PLUS THE APPLICABLE DASH NUMBER AS SPECIFIED IN TABLE I.

AUTHORIZED VENDORS, VENDOR PART NUMBERS, CAL STATUS, CAL DATE, AND CAGE OR FSCM ARE AS DEFINED IN THE ROCKWELL COLLINS, INC. SUPPLIER INFORMATION DATA BASE (SIDB) / PRODUCTION AND INVENTORY OPTIMIZATION SYSTEM (PIOS).

REV																					
SHEET	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
REV STATUS OF SHEETS	REV	N	N	N	N	N	N	N															
	SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			

UM PIECES (PC)

SPECIFICATION CONTROL DRAWING

CONTRACT NO.

PREP O.M. GRIFFITH 4/25/7

CHK O.M. GRIFFITH 4/25/75

APVD B.W. DANIELS 4/25/75

ROCKWELL INTERNATIONAL CORPORATION
COLLINS RADIO GROUP
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406

DIODE, LIGHT EMITTING

SIZE	CAGEC	DWG NO.
A	13499	353-0453

SCALE

SHEET 1 OF 7

METRIC SI

074-5225-072

REL ☒ REV N TC BD CR 2 NB 1 DL 1 TO 1

2. **APPLICABLE DOCUMENTS: 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.**

MILITARY STANDARDS

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°C UNLESS OTHERWISE SPECIFIED. THE FOLLOWING REPRESENT LIMITING VALUES ABOVE WHICH DEVICES MAY BE DAMAGED OR PARAMETER VALUES PERMANENTLY ALTERED.

	PARAMETER	-020,-040,-050	-010 AND -030
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/°C	1.49 mW/°C
3.1.4	STORAGE AND OPERATING TEMPERATURE	-40°C TO +100°C	-20°C TO +100°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:

	PARAMETER	I_F MA	MIN	MAX
3.2.1	FORWARD VOLTAGE			
	-020,-040,-050	20		3.0V
	-010 AND -030	10		2.8V
3.2.2	REVERSE BREAKDOWN VOLTAGE @ 10 µA		3.0V	

SIZE	CAGEC	DWG NO.
A	13499	353-0453
SCALE	REV N	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 ELCTRICAL REQUIREMENTS 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.

	TEST	MIL-STD-750 TEST METHOD	TEST CONDITIONS
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.

	TEST	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, ROCKWELL MAY PERFORM TESTS ON ANY PRODUCTION SHIPMENT TO ASSURE CONFORMANCE TO THESE REQUIREMENTS.

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

6. NOTES: NONE

TABLE I

DASH NO	COLOR	FIGURE NO.
-010	YELLOW	1
-020	RED	1
-030	GREEN	1
-040	RED	2
-050	RED	3
-060	YELLOW	3
-070	RED	3
-080	YELLOW	3

874-1225-001

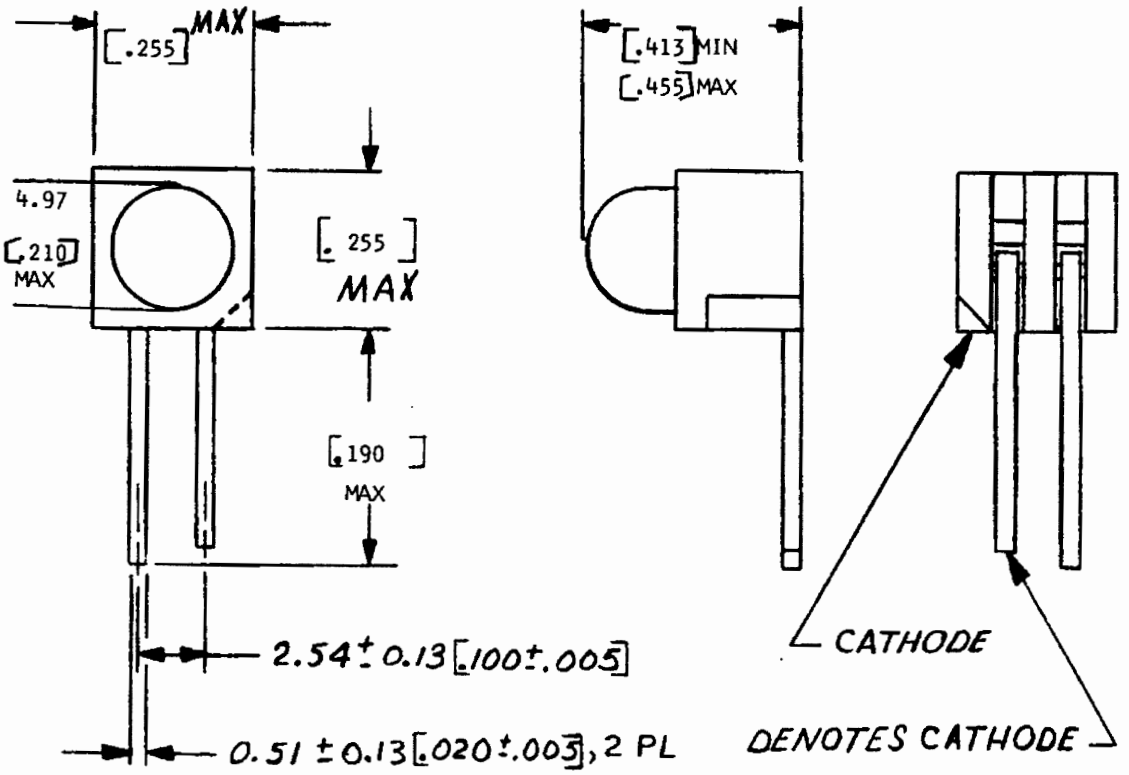

FIGURE 1

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES [INCHES]				
METRIC	US CUSTOMARY [ ]	SIZE	CAGEC	DWG NO.
TOL ON METRIC DIM: DIM: .X = ±0.5 .XX = ±0.2 ANGLES: ±1.0°	TOL ON [ ] DIM: DEC DIM: .XX = ±.02 .XXX = ±.008 ANGLES: ±1.0°	A	13499	353-0453
THIRD ANGLE PROJECTION		SCALE	REV N	SHEET 5

074-5225-001

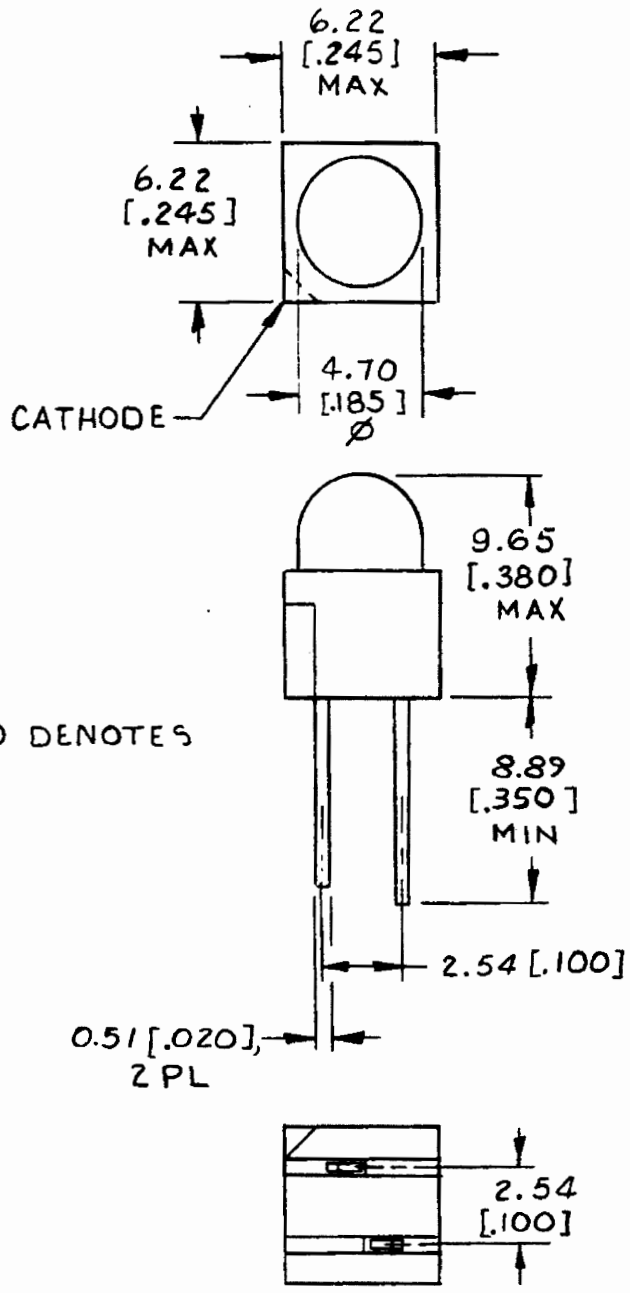

FIGURE 2

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

SIZE	CAGEC	DWG NO.
A	13499	353-0453
SCALE	REV N	SHEET 6

074-5225-051

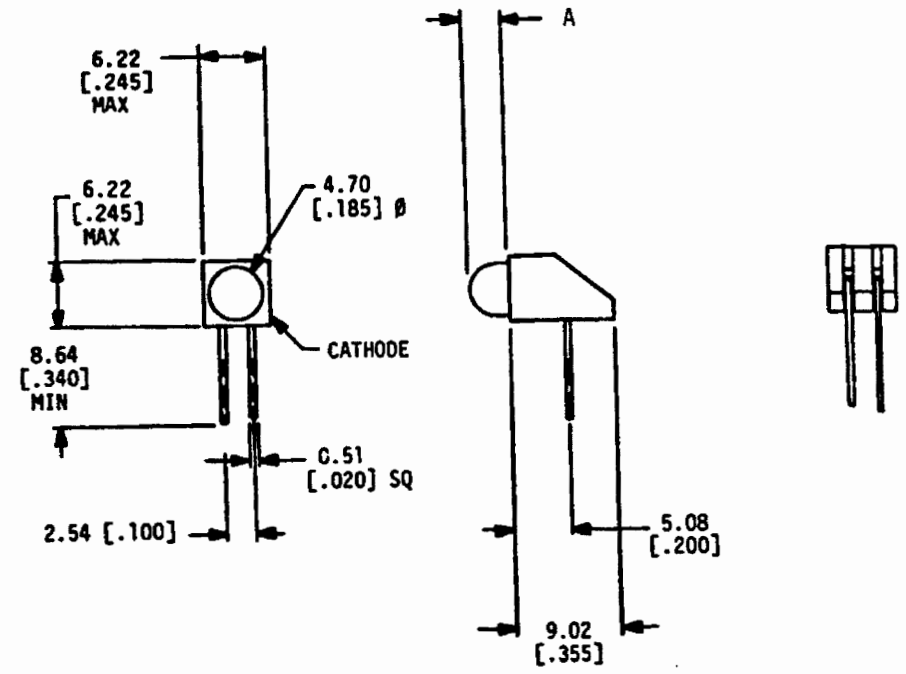

FIGURE 3

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 52406

PREP	SIZE A	CAGEC 13499	DWG NO. 353-0453	REV LTR N
CHK	SCALE			SHEET 7

074-5225-081