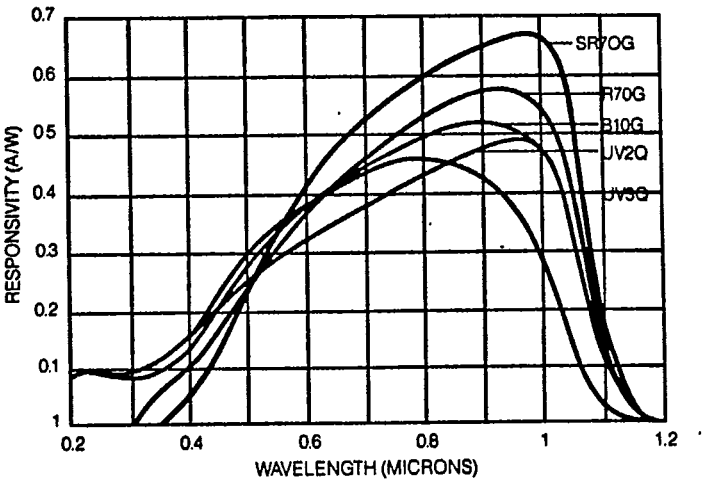
Detector Arrays and Long-Line Strip Detectors

ADC offers silicon multi-element linear and matrix arrays with excellent blue response and element matching. Our custom manufacturing capabilities allow us to provide photodiode arrays with the element shape, uniformity, crosstalk, and inter-element spacing optimized for the application.

Long-line incorporate state-of-the-art linearity, uniformity, and stability performance. Typical packaging consists of five to twenty one-inch photodiodes mounted in series with a typical inter-element gap of 0.002 inch on a common PCB substrate. The subassembly is then mounted on a customer-specified metal housing to facilitate installation into the main frame. The length and cell count can, of course, be customized beyond our current production devices, typically for use in facsimile applications.

RESPONSIVITY CURVES (TYPICAL)

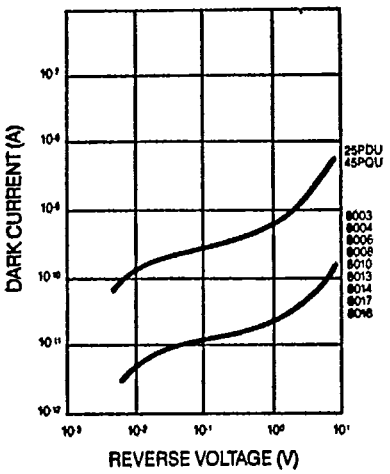


ARRAYS

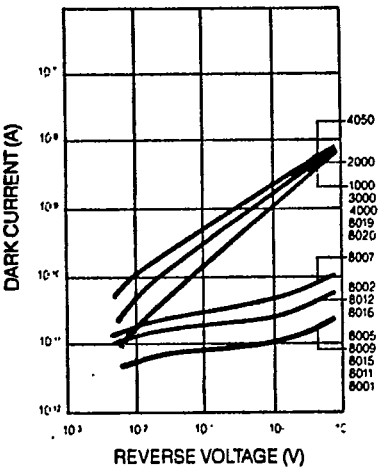
TYPE NUMBER	PACKAGE OUTLINE	No. OF ELEMENTS	ELEMENT DIMENSIONS (mm)	PITCH (mm)	PHOTO-SENSITIVE AREA (mm²)	RESPONSE CURVE TYPE	RESPONSE RANGE (nm)	PEAK WAVE-LENGTH (nm)	RESPONSIVITY[1] 254 nm (A/W)	RESPONSIVITY[1] 550 nm (A/W)	RESPONSIVITY[1] PEAK (A/W)
ADC8019	C5	72	.28 x 6.35	0.31	1.8	B10G	320-1060	900	—	0.34	0.52
ADC8020	C7	14	.56 x .51	0.86	0.29	B10G	320-1060	900	—	0.34	0.52
ADC1000	C9	8	1.3 x 1.6	1.59	21	B10G	320-1060	900	—	0.34	0.52
ADC2000	C10	16	1.2 x 2	1.58	2.4	B10G	320-1060	900	—	0.34	0.52
ADC3000	C11	16	2.0 x 4.5	2.54	5.2	B10G	320-1060	900	—	0.34	0.52
ADC4000	C6	32	.51 x 5.9	0.63	3.0	B10G	320-1060	900	—	0.34	0.52
ADC4050	C12	3 x 5	2.0 x 1.0	2.41	2.1	B10G	320-1060	900	—	0.34	0.57
ADC5000	C8	10†	25.4 x 9.9	25.6	2340	SR70G	370-1100	950	—	0.34†	0.57
ADC6000	C8	10†	25 x 2.8	25.4	654	SR70G	370-1100	950	—	0.34†	0.57
ADC7000	C8	10†	23 x 4.7	25.4	1110	SR70G	370-1100	950	—	0.34†	0.57
45PQU05M	T05/5	2 x 2	1.3 x 1.3	1.43	1.7	R70G	320-1100	950	—	0.31	0.57
25PDU05M	T05/3	2	1.3 x 2.5	1.43	3.2	R70G	320-1100	950	—	0.31	0.57
ADC8001	C13	35	.9 x 4.4	1	3.96	UVQ	200-1100	900	0.09	0.30	0.47
ADC8002	C13	35	.9 x 4.4	1	3.96	UVQ	200-1000	750	0.09	0.36	0.47
ADC8003	C13	35	.9 x 4.4	1	3.96	UVQ	200-1100	900	0.09	0.27	0.51
ADC8004	C13	35	.9 x 4.4	1	3.96	UVQ	200-1000	750	0.09	0.36	0.47
ADC8005	C6	35	.9 x 4.5	0.99	4.05	UVQ	200-1100	900	0.09	0.28	0.52
ADC8006	C6	35	.9 x 4.5	0.99	4.05	UVQ	200-1100	900	0.09	0.28	0.52
ADC8007	C6	35	.9 x 4.5	0.99	4.05	UVQ	200-1100	900	0.09	0.28	0.52
ADC8008	C6	35	.9 x 4.5	0.99	4.05	UVQ	200-1100	900	0.09	0.28	0.52
ADC8009	C6	35	.9 x 4.5	0.99	4.05	UVQ	200-1100	900	0.09	0.28	0.52
ADC8010	C6	35	.9 x 4.5	0.99	4.05	UVQ	200-1100	900	0.09	0.28	0.52
ADC8011	C13	38	.9 x 4.4	1	3.96	UVQ	200-1100	900	0.09	0.28	0.52
ADC8012	C13	38	.9 x 4.4	1	3.96	UVQ	200-1000	750	0.09	0.36	0.47
ADC8013	C13	38	.9 x 4.4	1	3.96	UVQ	200-1100	900	0.09	0.28	0.52
ADC8014	C13	38	.9 x 4.4	1	3.96	UVQ	200-1000	750	0.09	0.36	0.47
ADC8015	C5	38	.9 x 4.4	1	3.96	UVQ	200-1100	900	0.09	0.28	0.52
ADC8016	C5	46	.9 x 4.4	1	3.96	UVQ	200-1000	750	0.09	0.36	0.47
ADC8017	C5	46	.9 x 4.4	1	3.96	UVQ	200-1100	900	0.09	0.28	0.52
ADC8018	C5	46	.9 x 4.4	1	3.96	UVQ	200-1000	750	0.09	0.36	0.47

†CONNECTED IN PARALLEL 1) MINIMUM RESPONSIVITY IS 90% OF TYPICAL RESPONSIVITY.

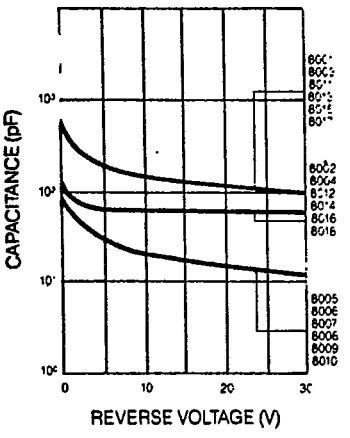
DARK CURRENT vs. VOLTAGE



DARK CURRENT vs. VOLTAGE

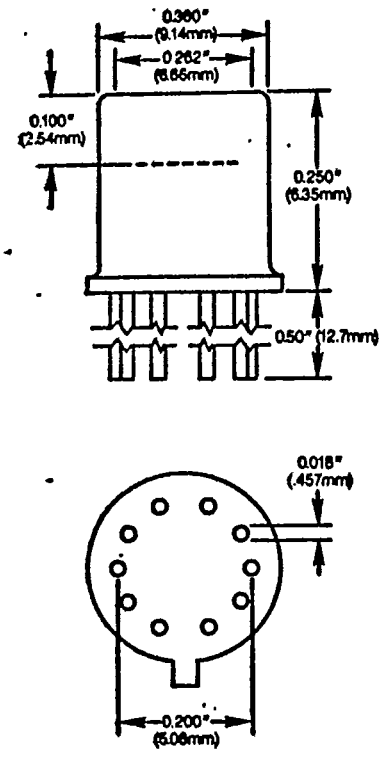


CAPACITANCE vs. VOLTAGE

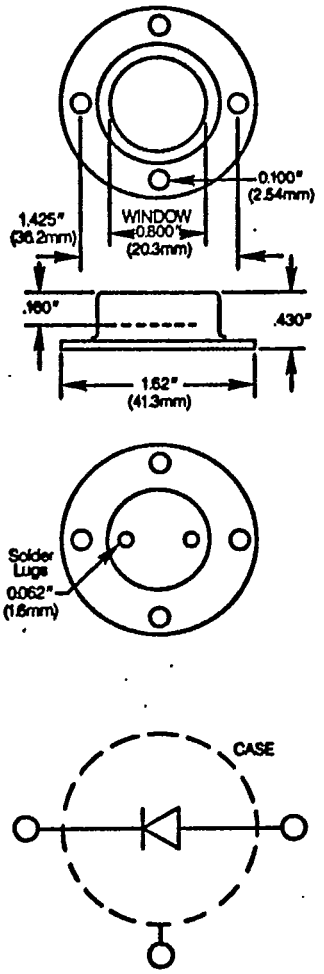


V_R = -0.01V MAX. (nA)	DARK CURRENTS V_R = -1.0V MAX. (nA)	V_R = -10V[3] MAX. (nA)	BREAKDOWN VOLT. I_{DR} = 10μA MIN. (V)	SHUNT RESISTANCE TYP. (Mohm)	TYPICAL CAPACITANCE V_R = 0V (pF)	V_R = -1V (pF)	V_R = -10V (pF)	RISETIME[2] V_R = 0, (ns)	V_R = -10 V (ns)	NEP TYP. ($W\sqrt{Hz}$)	D* TYP. ($cm\sqrt{Hz}/W$)
0.05	6	40	5	400	190	180	130	500	5	6.3E-15	2.1E+13
0.10	6	40	20	200	31	29	22	450	5	8.9E-15	6.0E+12
0.10	6	40	40	200	220	210	160	500	5	8.9E-15	1.6E+13
0.20	6	40	40	100	250	240	180	550	8	1.3E-14	1.2E+13
0.05	6	40	40	400	550	520	390	600	10	6.3E-15	3.6E+13
0.10	6	40	10	200	320	300	220	550	8	8.9E-15	1.9E+13
0.38	6	40	40	53	220	210	100	500	5	1.7E-14	8.4E+12
—	—	9,500 V_R = -2.5 V	40	> 1	—	—	22,000 V_R = -2.5 V	—	25,000 V_R = -2.5 V	8.9E-14	5.4E+13
—	—	20,000	40	> 1	—	—	4,000	—	5000	8.9E-14	2.9E+13
—	—	20,000	40	> 1	—	—	4,000	—	5000	8.9E-14	3.7E+13
0.23	1.0	10	50	90	1	1	1	450	5	1.4E-14	9.6E+12
0.34	1.0	10	100	60	1	1	1	450	5	1.6E-14	1.1E+13
0.01	.02	.05	40	2000	550	400	140	500	5	2.8E-15	7.0E+13
0.01	0.02	0.05	40	2000	550	400	140	450	3	2.8E-15	7.0E+13
0.01	0.2	.5	25	2000	550	400	140	500	5	2.8E-15	7.0E+13
0.01	0.2	0.5	25	2000	550	400	140	450	3	2.8E-15	7.0E+13
0.01	.02	.06	40	2000	550	400	140	450	5	2.8E-15	7.1E+13
0.01	.05	.5	25	2000	550	400	140	450	5	2.8E-15	7.1E+13
0.03	.10	.3	25	670	600	450	160	450	5	4.9E-15	4.1E+13
0.03	0.3	.6	12	670	600	450	160	450	5	4.9E-15	4.1E+13
0.01	.02	.06	40	2000	550	450	160	450	5	2.8E-15	7.1E+13
0.01	.02	.5	12	2000	550	400	140	450	5	2.8E-15	7.1E+13
0.01	.02	.05	40	2000	550	400	140	500	5	2.8E-15	7.0E+13
0.01	0.02	0.05	40	2000	550	400	140	450	3	2.8E-15	7.0E+13
0.01	0.2	.5	25	2000	550	400	140	500	5	2.8E-15	7.0E+13
0.01	0.2	0.5	25	2000	550	400	140	450	3	2.8E-15	7.0E+13
0.01	0.02	.05	40	2000	550	400	140	500	5	2.8E-15	7.0E+13
0.01	0.02	0.05	40	2000	550	400	140	450	3	2.8E-15	7.0E+13
0.01	0.2	.5	25	2000	550	400	140	500	5	2.8E-15	7.0E+13
0.01	0.2	0.5	25	2000	550	400	140	450	3	2.8E-15	7.0E+13

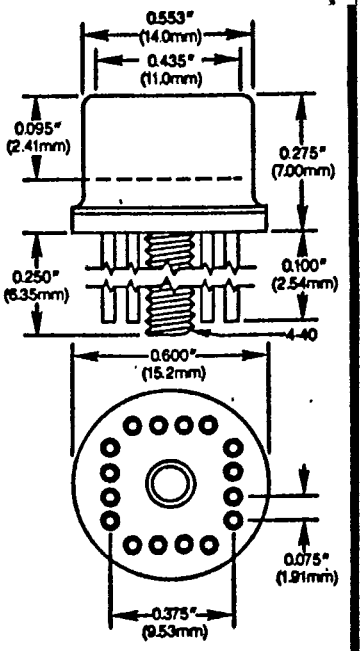
2) 50 OHM LOAD λ = 800 nm
3) OR AT ½ BREAKDOWN VOLTAGE, WHICH EVER IS LESS



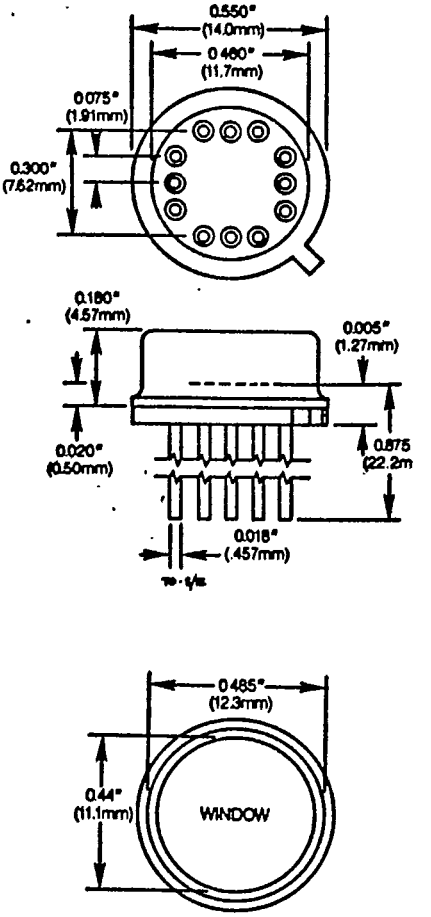
TO-74



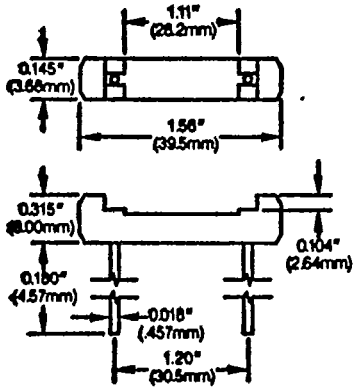
TO-3/3



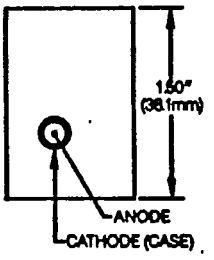
TO-8/16

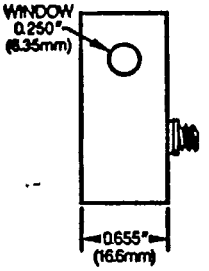


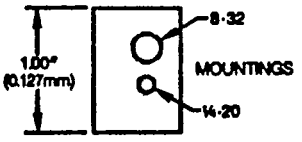
TO-8/12



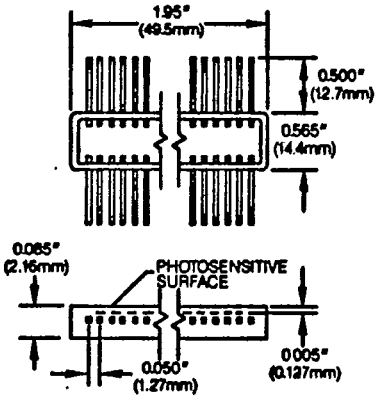
C1



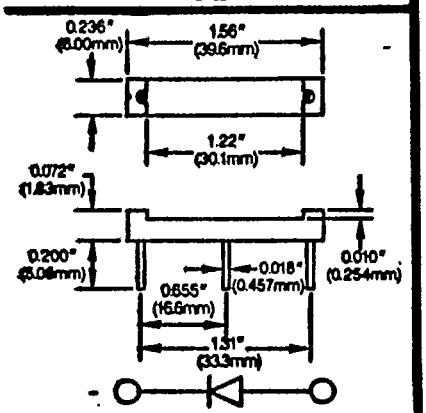




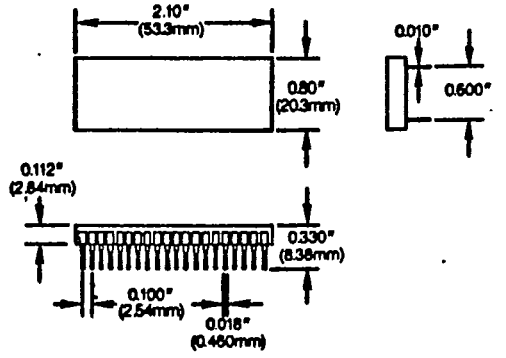
C4



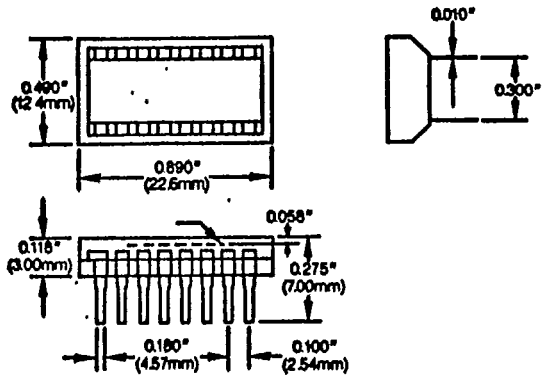
C5



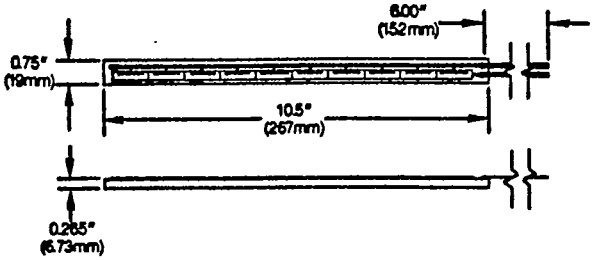
C2



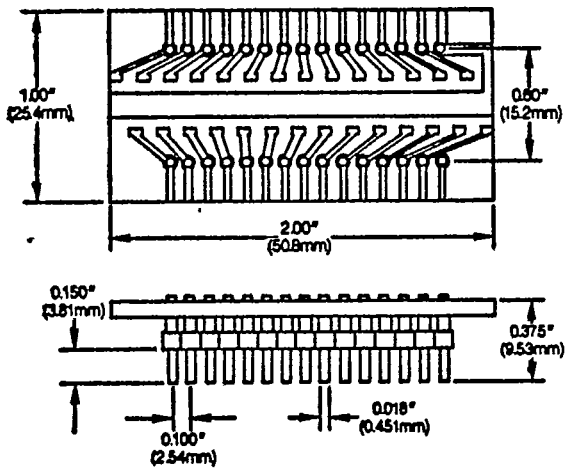
C6



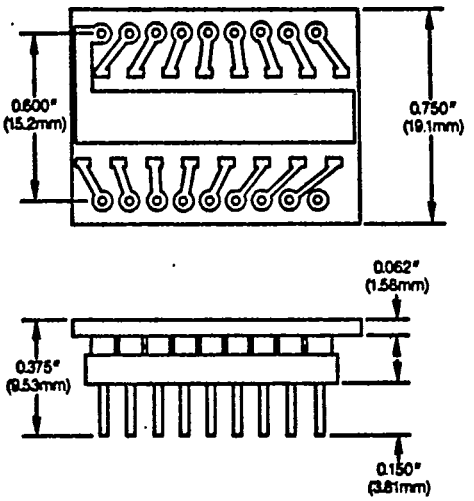
C7



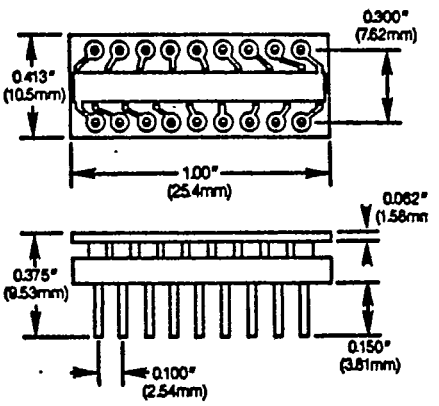
C8



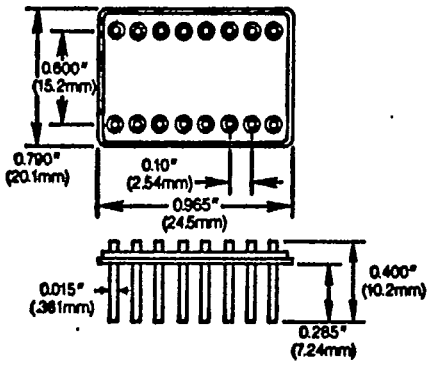
C9



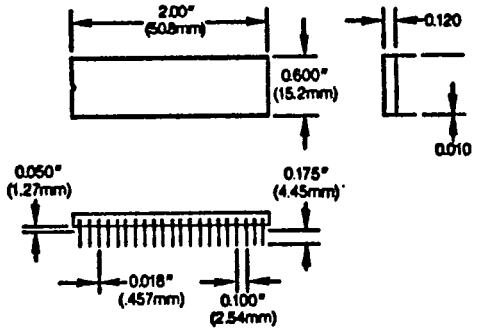
C10



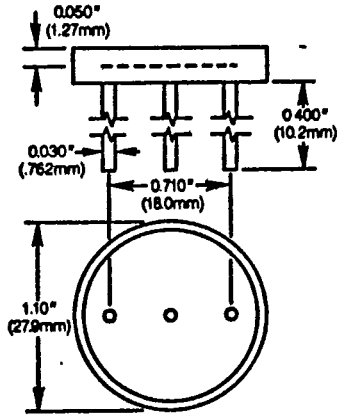
C11



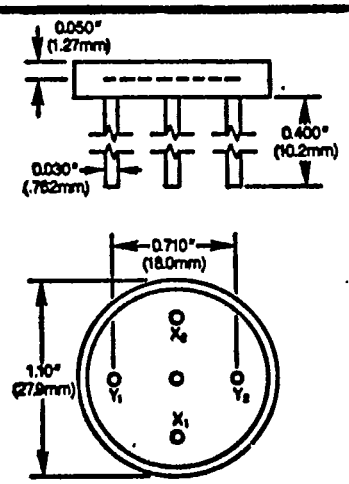
C12



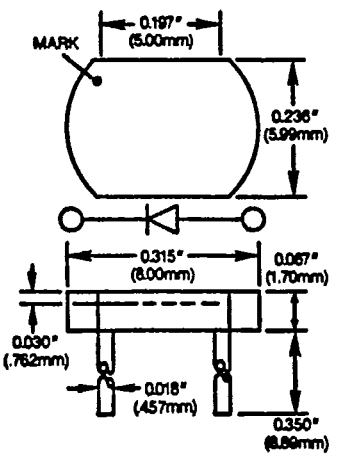
C13



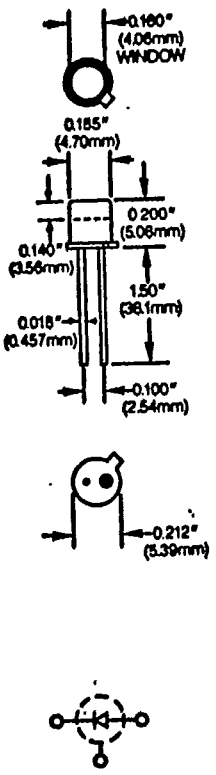
C14



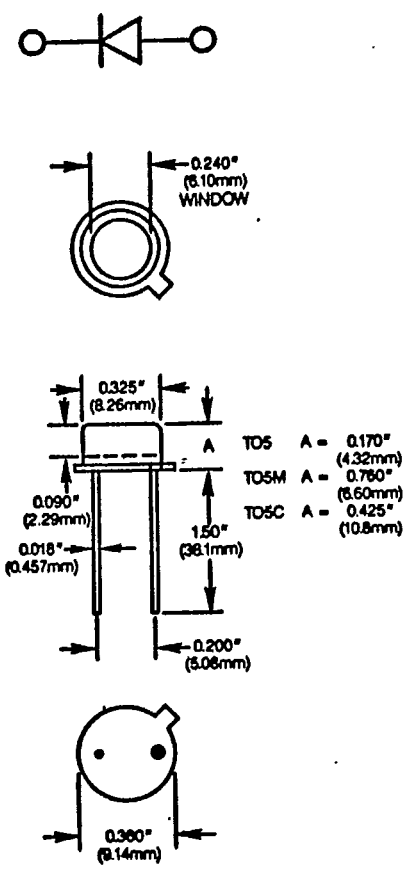
C15



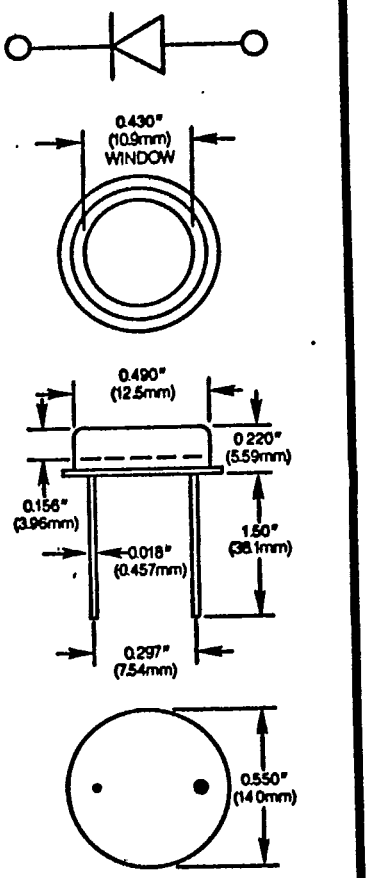
C16



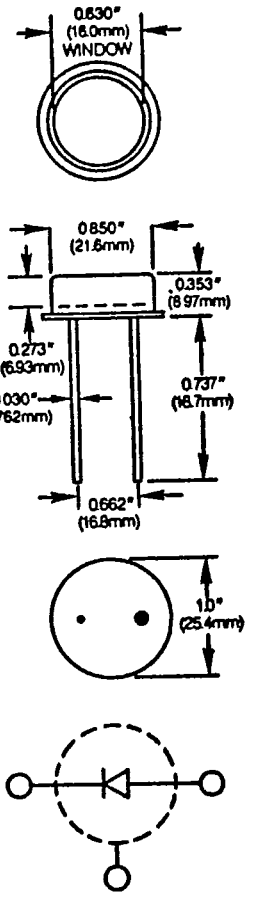
TO-18



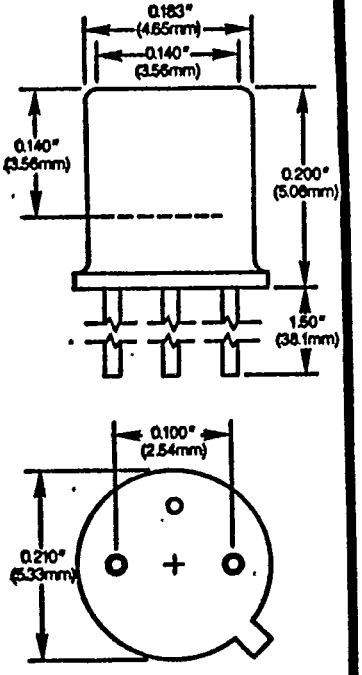
TO-5



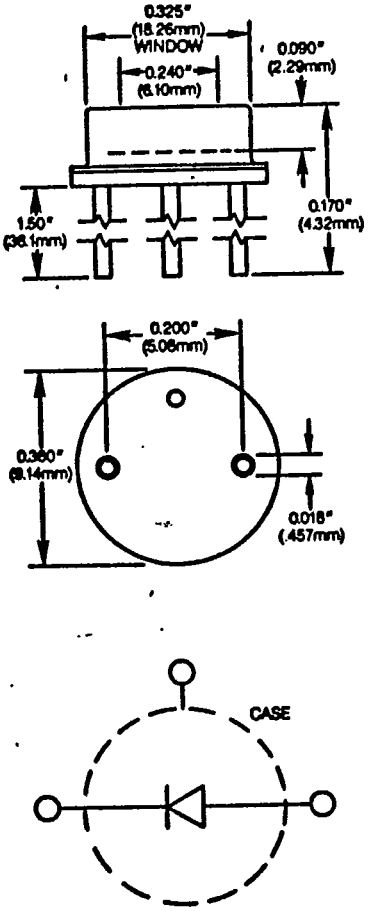
TO-8



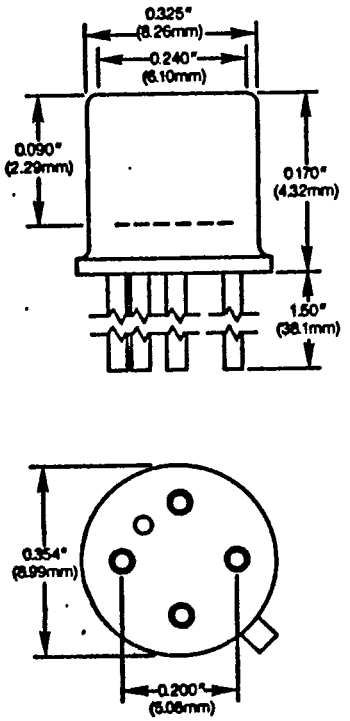
TO-3



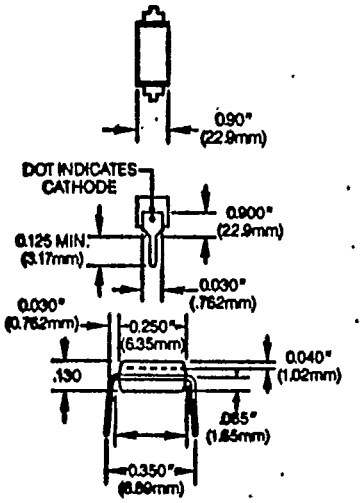
TO-18/3



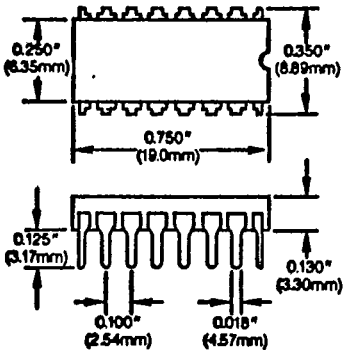
TO-5/3



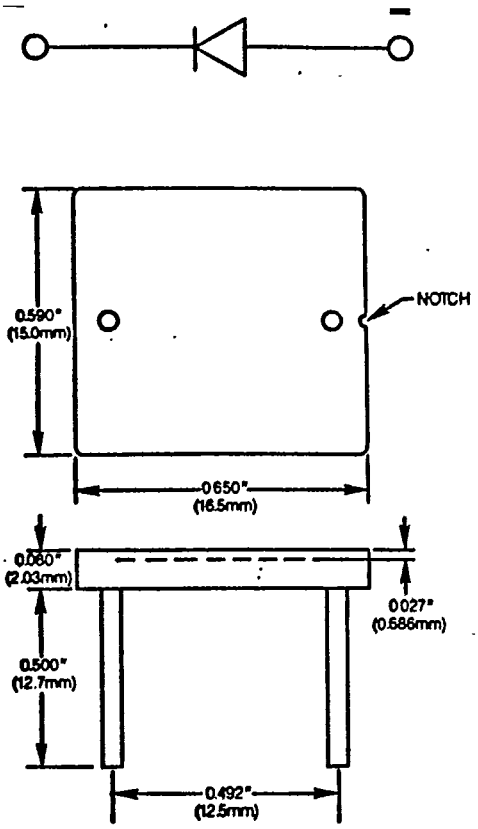
TO-5/5



PDIP1



PDIP2



PII