High Speed PIN Photodiodes

Specifications

Responsivity: 0.50 A/W minimum, 0.55 A/W typical @ 900nm. YAG enhanced are available for .35 A/W @ 1064nm on a custom basis.

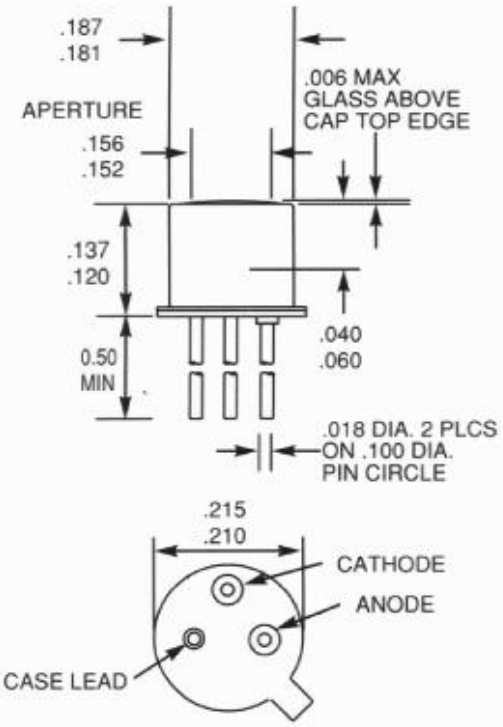
Series Resistance: 100Ω maximum (measured by applying +10mA to photodiode and measuring voltage across anode and cathode)

Part Number	Active Area	Storage & Operating Temp.	Dark Current[1] @ 50V		Breakdown Voltage[2] @ 10μ A	Capacitance[3] (typ)		NEP[4]	Max. Linear Current[5]	Response Time[6] @ 60V
	in. (mm)	(C°)	(typ) (nA)	(max) (nA)	(typ) (V)	at 0V (pF)	at 50V (pF)	(typ) (W/√Hz)	(typ) (mA)	(typ) (nsec)
SD 020-11-33-211	0.020 (dia.) (.5 dia.)	-40 to 110	0.5	2.0	75	2.1	0.3	$2.4x10^{-14}$	0.002	2
SD 041-11-33-211	0.040 x 0.033 (1.0 x .833)	-40 to 110	2.0	8.0	75	5.6	0.5	$4.8x10^{-14}$	0.008	4
SD 076-11-31-211	0.105 x 0.043 (2.66 x 1.09)	-40 to 110	8.0	30	75	17	2.5	$1.0x10^{-13}$	0.029	4
SD 100-11-31-221	0.100 (dia.) (2.54 dia.)	-40 to 110	12	50	75	28	3.5	$1.3x10^{-13}$	0.051	4
SD 172-11-31-221	0.185 x 0.125 (4.7 x 3.18)	-40 to 110	35	147	75	82	10	$2.0x10^{-13}$	0.15	4
SD 200-11-31-241	0.200 (dia.) (5.08 dia.)	-40 to 110	50	200	75	110	11	$3.0x10^{-13}$	0.20	4
SD 290-11-31-241	0.300 x 0.220 (7.62 x 5.58)	-40 to 110	110	425	75	235	22	$3.8x10^{-13}$	0.43	6

1. Dark Current varies with temperature as follows: for T>23° C, $I_D=1.09^{\Delta T}I_{D23}$, and for T<23° C, $I_D=I_{D23}/1.09^{\Delta T}$, where Δ T is the temperature difference from 23° C, and I_{D23} is the dark current at 23° C.
2. Typical values listed. Minimum value shall be 50V.
3. Typical values are listed in the table. Maximum value is 20% higher than the typical value.
4. Test conditions are V_B=50V and 950nm.
5. Maximum linear current specifies the level above which the output current deviates more than 10%.
Short circuit current saturates at approximately 10 times this level.
6. Response times listed are for the rising or falling edge, and were measured at 830nm with a 50Ω load. Shorter wavelengths will result in faster rise and fall times.

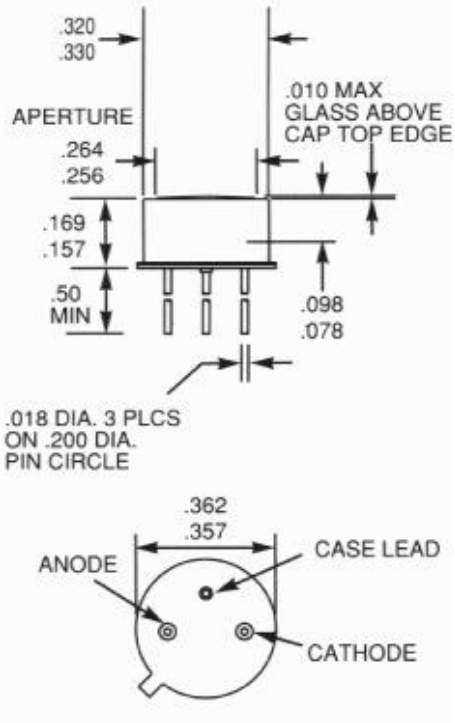
SD 020-11-33-211

SD 041-11-33-211

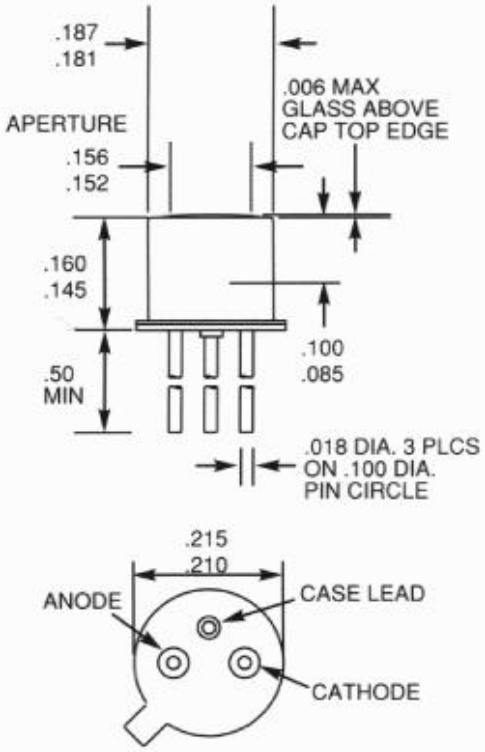


SD 100-11-31-221

SD 172-11-31-221



SD 076-11-31-211



SD 200-11-31-241

SD 290-11-31-241