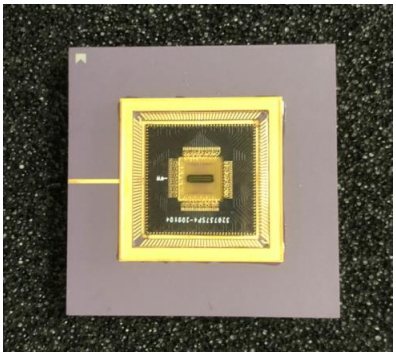
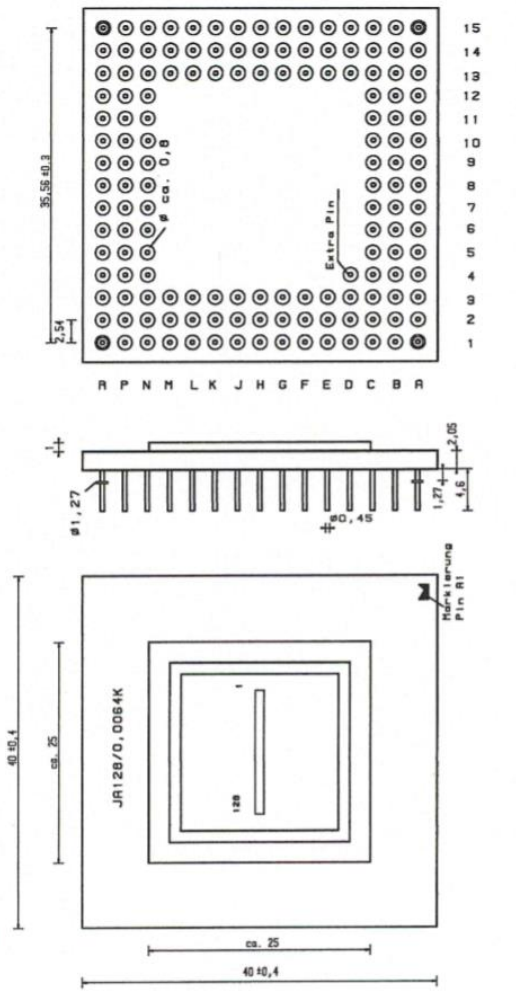
InGaAs avalanched photodiode

Array (1*128)





NOTES:

All dimension are in millimeters.

Description

The backside-illuminated operation of the IGA128-APD array Provide both higher responsivity and lower capacitance than Competing frontside-illuminated APD arrays.

OTRON IGA128-APD is custom engineered for reduced excess Noise, which allows this APD array to achieve higher sensitivity, Better signal-to-noise performance, and lower bit error rates Than conventional APD arrays.

Features

* Low-capacitance high sensitivity back-side illuminated design
* 950-1700nm response
* Reduced excess noise design from conventional APDs
* Operation up to a multiplication gain of M=20
* Custom devices available upon request

Applications

* Laser range finder, Lidar
*High speed optical communications
* Laser scanner

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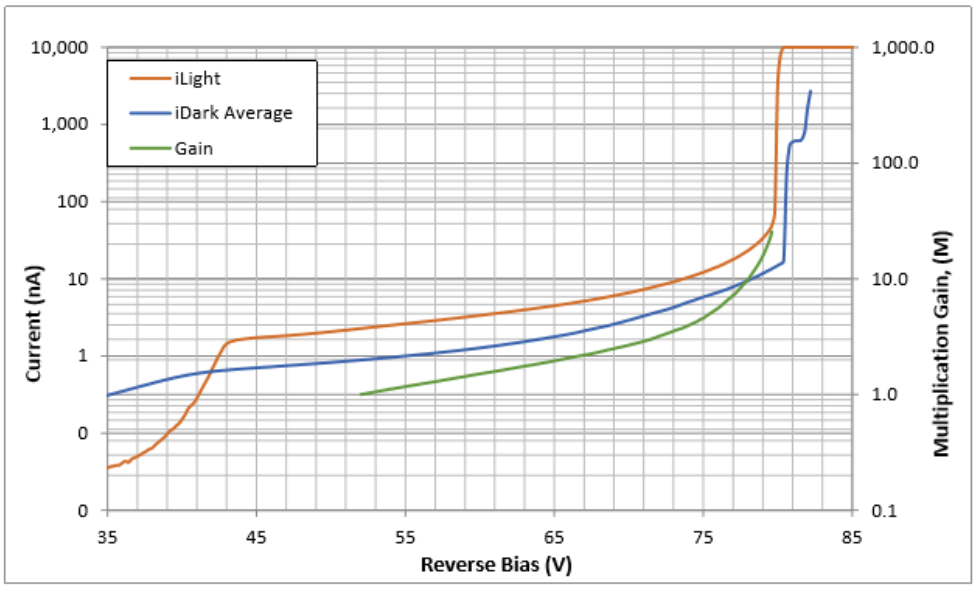
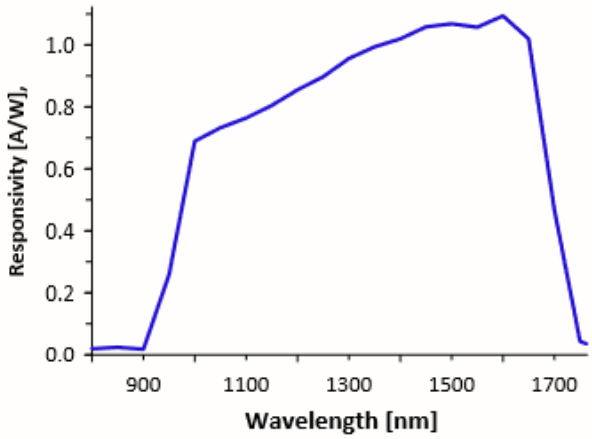
Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Active diameter	A			24*75		um/pixel
Gap/ Separation（center to center）				48		um
Pitch		Element to element		24		um
Operating Gain	M		1	10	75	
Quantum Efficiency(1550nm)			80%		85%	
Fill Factor				55%		
Bandwidth				2.5		GHz
Reverse breakdown voltage	$V_{(BR)}$	I_R=100μA Ev=0lx, Id>0.1mA,T=294K	65		80	V
⊿Vbr/⊿T				29		mV/K
Junction Capacitance	C_J	M>3, V_R=V_{BR}*0.9, f=1M		721		pF
Photo sensitivity@M-=10	S_R	λ_p=1.55um, M=10	9.1	10.1	10.4	A/W
		λ_p=1.064um, M=10	6.6	7.3	7.8	
Spectral Application Range	λ_{range}		950	1000-1600	1750	nm
Spectral Response-Peak	λ_p			1064-1550		nm
Excess Noise Factor		M=10		1.7		
Noise Spectral Density		M=10		0.37		PA/ √ Hz
Dark Current		M=10, T=298K		25		nA
Operation Voltage	V	0.9*$V_{(BR)}$				
Max. Instantaneous Input Power		10nS, 1064nm signal at a 20Hz PRF with M=10			128	mW/pixel

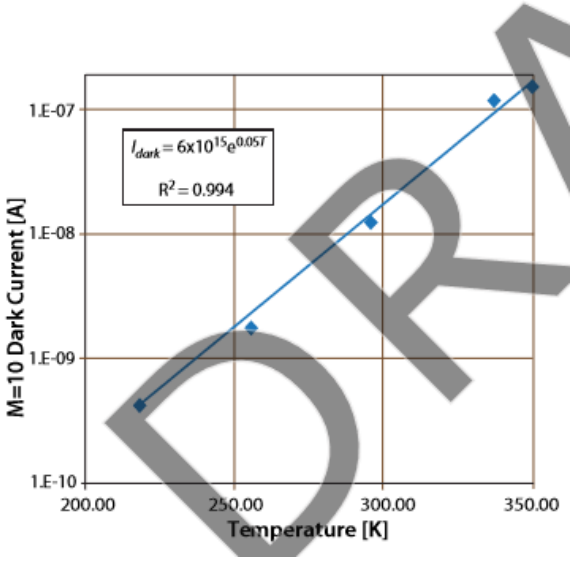


Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

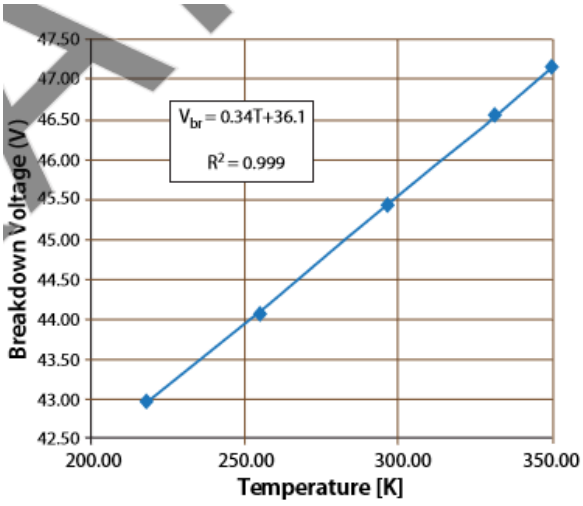
■ Spectral response （ M=10)



■Dark current VS.Temperature

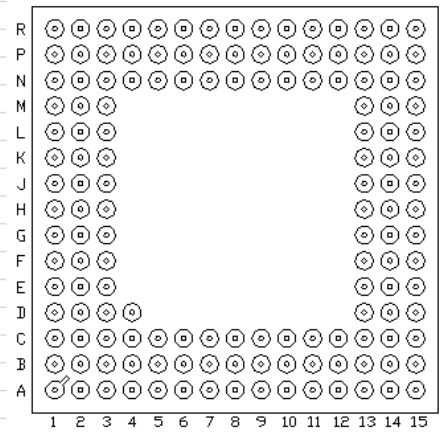


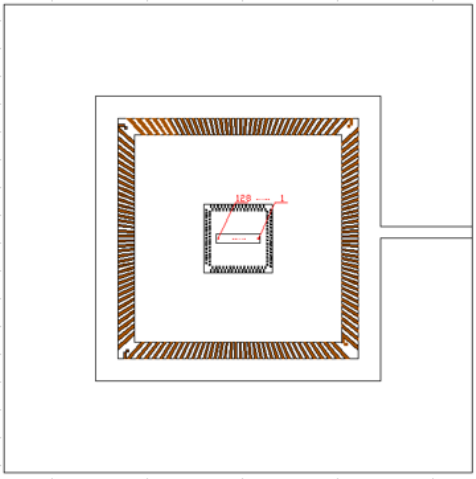
■Breakdown Voltage vs.Temperature （ M=10)

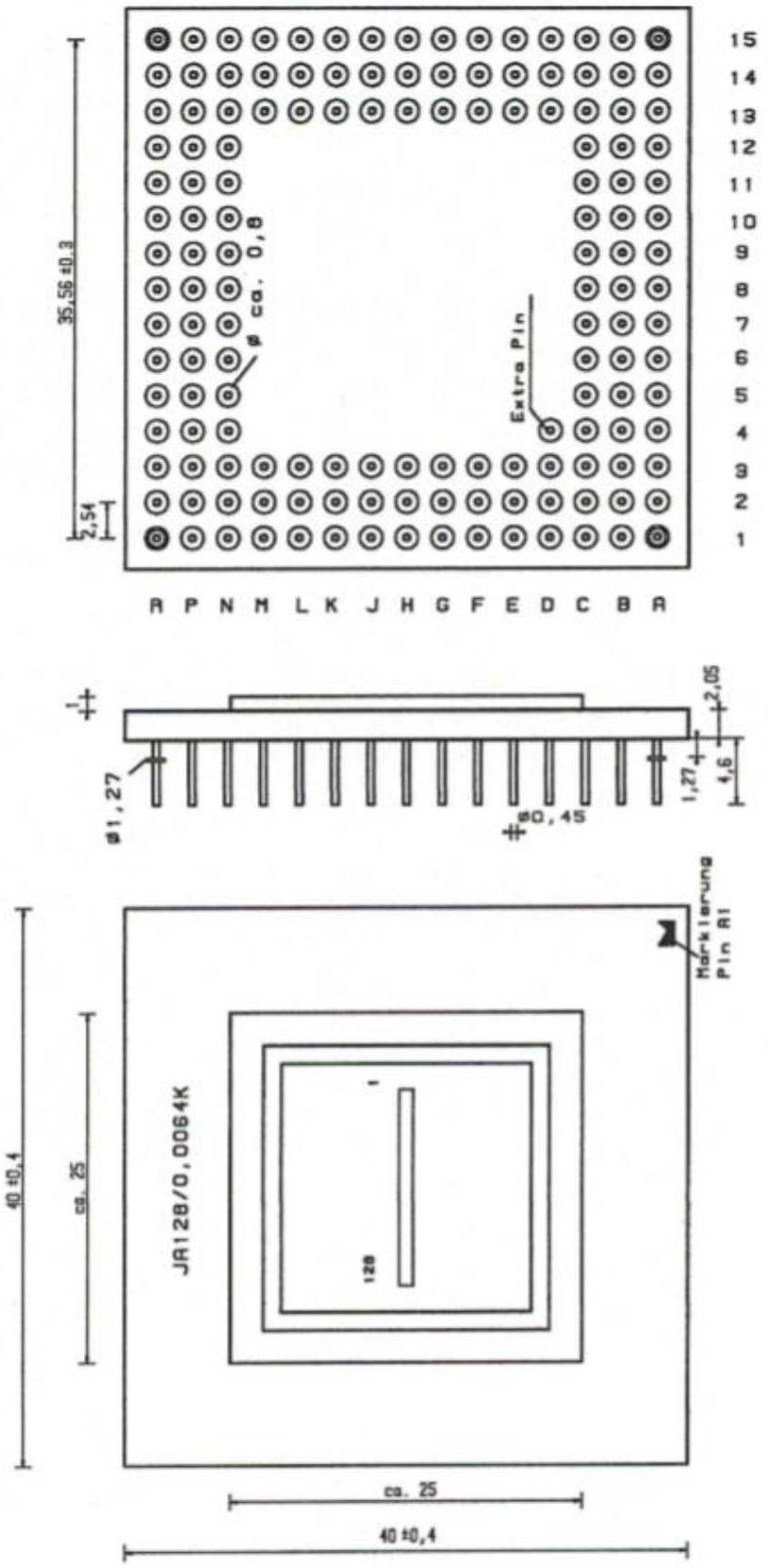


PIN LEGS:

PIN No.	Pix No.	PIN No.	Pix No.	PIN No.	Pix No.	PIN No.	Pix No.
D3	NC	N4	NC	M13	NC	C12	NC
C2	31	P3	NC	N14	NC	B13	NC
B1	29	R2	34	P15	100	A14	95
D2	27	P4	36	M14	98	B12	93
E3	25	N5	38	L13	102	C11	91
C1	23	R3	40	N15	106	A13	89
E2	21	P5	42	L14	104	B11	87
D1	19	R4	44	M15	108	A12	85
F3	17	N6	46	K13	112	C10	83
F2	15	P6	48	K14	110	B10	81
E1	13	R5	50	L15	114	A11	79
G2	11	P7	52	J14	118	B9	77
G3	9	N7	54	J13	116	C9	75
F1	7	R6	56	K15	120	A10	73
G1	5	R7	58	J15	124	A9	71
H2	3	P8	60	H14	122	B8	69
H1	1	R8	62	H15	126	A8	67
H3	VH	N8	64	H13	127	C8	65
J3	2	N9	66	G13	128	C7	63
J1	4	R9	68	G15	125	A7	61
K1	6	R10	70	F15	121	A6	59
J2	8	P9	72	G14	123	B7	57
K2	10	P10	74	F14	119	B6	55
K3	12	N10	76	F13	115	C6	53
L1	14	R11	78	E15	117	A5	51
L2	16	P11	80	E14	113	B5	49
M1	18	R12	82	D15	109	A4	47
N1	20	R13	84	C15	111	A3	45
M2	22	P12	86	D14	107	B4	43
L3	24	N11	88	E13	103	C5	41
N2	26	P13	90	C14	105	B3	39
P1	28	R14	92	B15	101	A2	37
M3	30	N12	94	D13	97	C4	35
N3	32	N13	96	C13	99	C3	33
P2	NC	P14	NC	B14	NC	B2	NC
R1	NC	R15	NC	A15	NC	A1	NC






15
14
13
12
11
10
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8
7
6
5
4
3
2
1
A P N M L K J H G F E D C B A
35,56 ±0,3
2,54
ø ca. 0,8
Extra Pin
2,05
1,27
4,6
ø1,27
ø0,45
Markierung
Pin A1
JA128/0,0064K
128
40 ±0,4
ca. 25
ca. 25
40 ±0,4

Socket: