13mm (0.5”) photomultiplier
L13D21H series data sheet

ADIT

PRELIMINARY

1 description

The L13D21H is a 13mm (0.5”) diameter,end window photomultiplier with a blue-green sensitive bialkali photocathode and 10 high gain, high stability, SbCs dynodes of linear focused design.

2 applications

- scintillation counting
- general purpose low light level detection

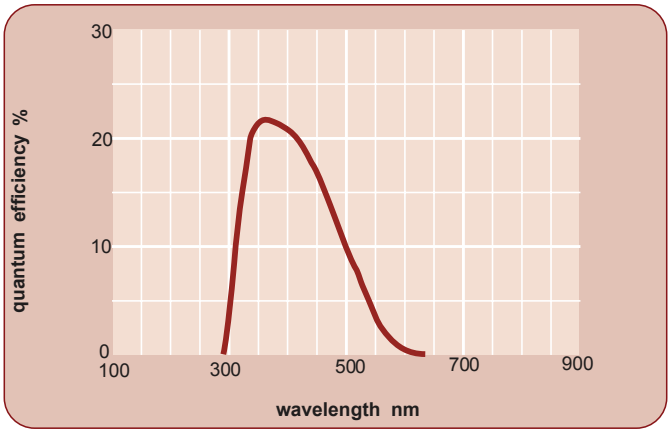
3 features

- low dark current
- good energy resolution

4 window characteristics

	L13D21H hard glass
spectral range*(nm)	290-630
refractive index (n)	1.49
K (ppm)	
Th (ppb)	(tbd)
U (ppb)	

5 typical spectral response curves

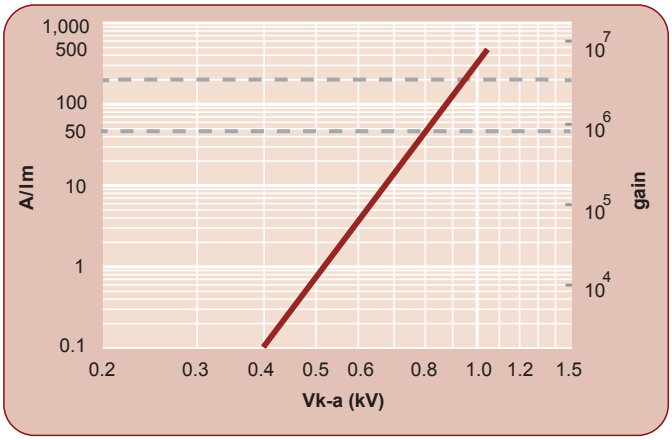


6 characteristics

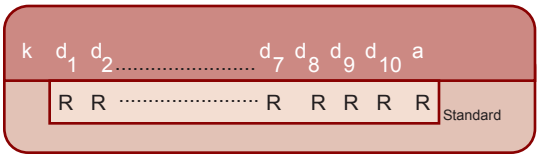
	unit	min	typ	max
photocathode: bialkali				
active diameter	mm		9	
quantum efficiency at peak	%		-	
luminous sensitivity	μA/lm		60	
with CB filter		5	9	
with CR filter			0.5	
dynodes: 10LFSbCs				
anode sensitivity:				
nominal anode sensitivity	A/lm		50	
max. rated anode sensitivity	A/lm		200	
overall V for nominal A/ml	V		800	1100
overall V for max. rated A/ml	V		925	
gain at nominal A/ml	$x10^6$		0.8	
dark current at 20℃:				
dc at nominal A/lm	nA		0.3	1.5
dc at max. Rated A/lm	nA		1.2	
dark count rate	s^{-1}		-	
pulsed linearity(-5% deviation)	mA		-	
rate effect(I for Δ g/g+1%):	μA			
magnetic field sensitivity:				
the field for which the output				
decreases by 50%			-	
most sensitive direction	$Tx10^{-4}$		-	
temperature coefficient:	% C		-	
timing: at 1000 V			-	
multi electron rise time	ns		2.1	
multi electron width (fwhm)	ns		5.5	
transit time	ns		22	
weight:	g		10	
maximum ratings:				
anode current	μA			50
cathode current	nA			50
gain	$x\ 10^6$			7
anode sensitivity	A/lm			200
temperature	℃	-30		60
V (k-a)(1)	V			1500
V (k-d1)	V			200
V (d-d)(2)	V			200
ambient pressure (absolute)	kPa			202

(1) subject to not exceeding max.rated sensitivity (2) subject to not exceeding max. rated V(k-a)

7 typical voltage gain characteristics

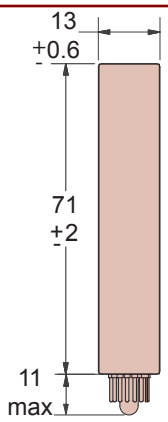


8 voltage divider distribution

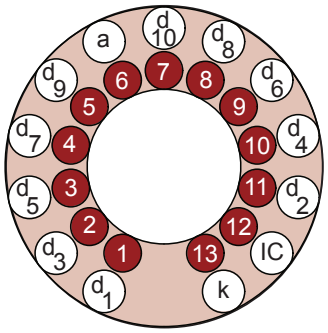


Characteristics contained in this data sheet refer to standard divider.

9 external dimensions mm



10 base configuration (viewed from below)



L13D21H

The L13D21H can be supplied with a custom designed voltage divider installed.

11 ordering information

The L13D21 meets the specifications given in this data sheet. At the present time the L13D21H is the only option offered. Contact the manufacturer for flying lead availablity.

Product with special test requirements, integral voltage divider network or with one or more of the shielding options below will be assigned a suffix with the letter A followed by a unique 3 digit number to designate the requirement.

L13D21

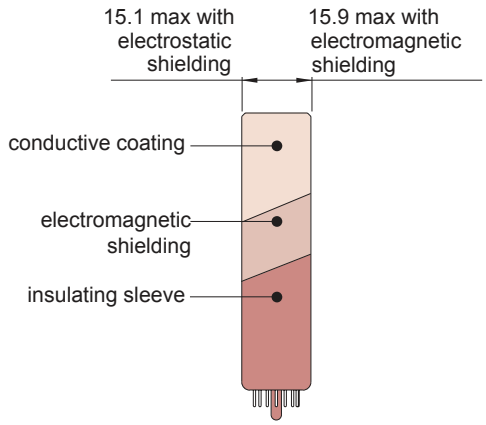
base options

H	hard pin, no cap
S	capped
L	temporary B14 cap

L13D21

specification options

A nnn	special requirements unique designator



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