

51 mm (2") photomultiplier

9266B series data sheet

1 description

The 9266B is a 51mm (2") diameter, end window photomultiplier with blue-green sensitive bialkali photocathode and 10 high gain, high stability, SbCs dynodes of linear focused design for good linearity and timing. The 9266QB is a variant for applications requiring uv sensitivity.

2 applications

- wide range of applications
- x-ray and gamma-ray
- scintillation

3 features

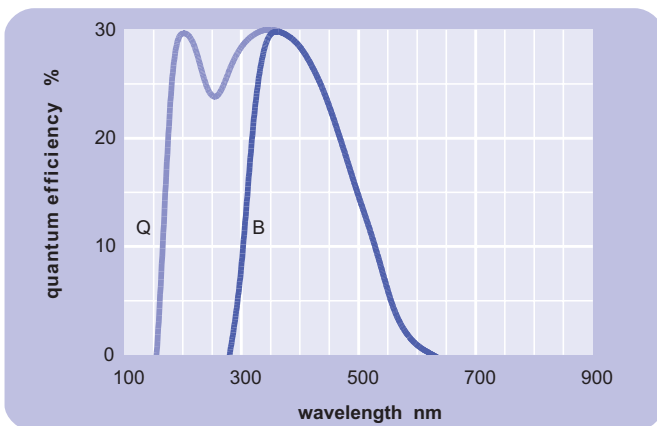
- high quantum efficiency
- good SER
- high pulsed linearity
- low rate effect

4 window characteristics

	9266B borosilicate	9266QB* fused silica
spectral range**(nm)	290 - 630	160 - 630
refractive index (n_d)	1.49	1.46
K (ppm)	300	<10
Th (ppb)	250	<10
U (ppb)	100	<10

* note that the sidewall of the envelope contains graded seals of high K content
** wavelength range over which quantum efficiency exceeds 1 % of peak

5 typical spectral response curves

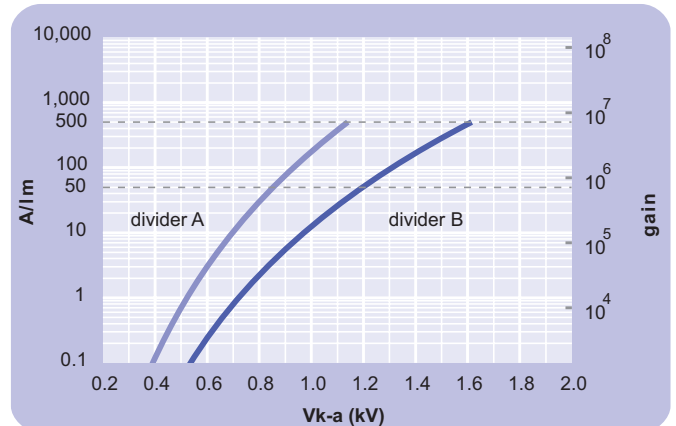


6 characteristics

	unit	min	typ	max
photocathode: bialkali				
active diameter	mm		48	
quantum efficiency at peak	%		30	
luminous sensitivity	$\mu\text{A/lm}$		70	
with CB filter		8	11.5	
with CR filter			2	
dynodes: 10LFSbCs				
anode sensitivity in divider A:				
nominal anode sensitivity	A/lm		50	
max. rated anode sensitivity	A/lm		500	
overall V for nominal A/lm	V		850	1100
overall V for max. rated A/lm	V		1150	
gain at nominal A/lm	$\times 10^6$		0.6	
dark current at 20 °C:				
dc at nominal A/lm	nA		0.3	1.5
dc at max. rated A/lm	nA		3	
dark count rate	s^{-1}		300	
pulsed linearity (-5% deviation):				
divider A	mA		30	
divider B	mA		100	
rate effect (I_a for $\Delta g/g=1\%$):				
	μA		20	
magnetic field sensitivity:				
the field for which the output decreases by 50 %				
most sensitive direction	$T \times 10^{-4}$		1.3	
temperature coefficient:				
	$\% \text{ } ^\circ\text{C}^{-1}$		± 0.5	
timing:				
multi electron rise time	ns		4	
multi electron fwhm	ns		6.5	
transit time	ns		40	
weight:				
	g		100	
maximum ratings:				
anode current	μA			100
cathode current	nA			100
gain	$\times 10^6$			7
sensitivity	A/lm			500
temperature	$^\circ\text{C}$	-30		60
V (k-a) ⁽¹⁾	V			2000
V (k-d1)	V			300
V (d-d) ⁽²⁾	V			300
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

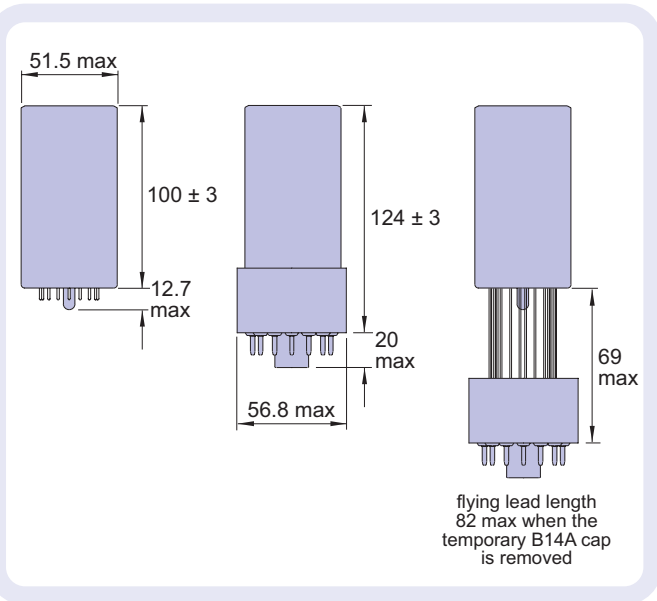


8 voltage divider distribution

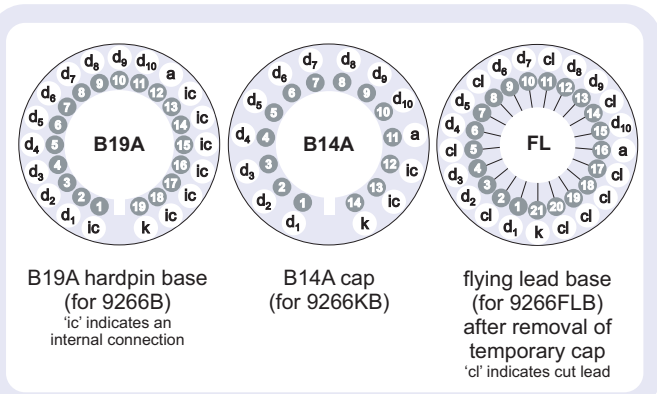
	k	d ₁	d ₂	.....	d ₇	d ₈	d ₉	d ₁₀	a	
A	2R	R	.....	R	R	R	2R	R		Standard
B	2R	R	.....	R	2R	3R	4R	3R		High Pulsed linearity

Characteristics contained in this data sheet refer to divider A unless stated otherwise.

9 external dimensions mm



10 base configuration (viewed from below)



Our range of B19A sockets is available to suit the B19A hardpin base. Our range of B14A sockets is available to suit the temporary B14A cap when the flying lead base variant is selected. Both socket ranges include versions with or without a mounting flange, and with contacts for mounting directly onto printed circuit boards.

11 ordering information

The 9266B meets the specification given in this data sheet. You may order **variants** by adding a suffix to the type number. You may also order **options** by adding a suffix to the type number. You may order product with **specification options** by discussing your requirements with us. If your selection option is for one-off order, then the product will be referred to as 9266A. For a repeat order, ET Enterprises will give the product a two digit suffix after the letter B, for example B21. This identifies your specific requirement.

9266

window variants

Q fused silica

base options

K capped

KFL flying lead base with temporary B14A cap

options

E electrostatic shielding see drawing below

S electromagnetic shielding see drawing below

M supplied with spectral response calibration

specification options

B as given in data sheet

A single order to selected specification

Bnn repeat order to selected specification

52.3 max with electrostatic shielding

52.6 max with electromagnetic shielding

12 voltage dividers

The standard voltage dividers available for these pmts are tabulated below:

	k	d ₁	d ₂	.....	d ₆	d ₇	d ₈	d ₉	d ₁₀	a
C647A	2R	R	.....	R	R	R	R	R		
C647B	2R	R	.....	R	2R	3R	4R	3R		
C647C	150 V	R	.....	R	R	R	R	R		
C647D	150 V	R	.....	R	2R	3R	4R	3R		

R = 330 kΩ

*mumetal is a registered trademark of Magnetic Shield Corporation