51 mm (2") photomultiplier
6097B series data sheet

ET Enterprises electron tubes

1 description

The 6097B is a 51 mm (2") diameter, end window photomultiplier with enhanced green sensitive bialkali photocathode and 11 high gain, high stability, SbCs dynodes of the long-established venetian blind design providing a low afterpulse rate.

2 applications

- wide range of applications

3 features

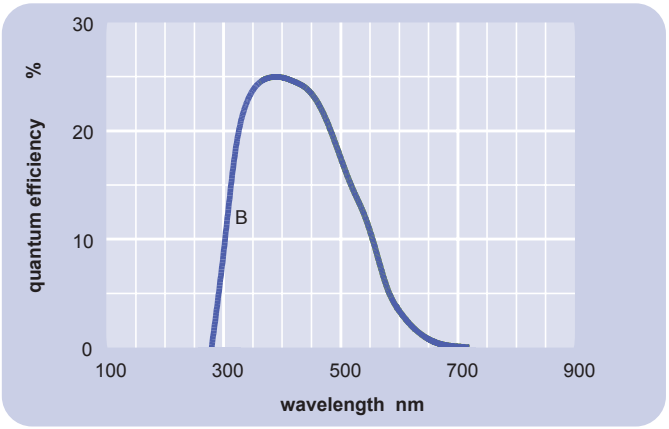
- high gain
- low afterpulsing

4 window characteristics

	6097B borosilicate
spectral range*(nm)	290 - 680
refractive index (n_d)	1.49
K (ppm)	300
Th (ppb)	250
U (ppb)	100

* wavelength range over which quantum efficiency exceeds 1 % of peak

5 typical spectral response curves

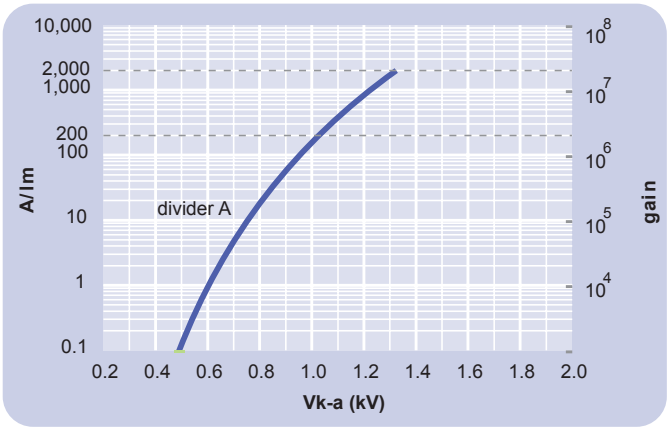


6 characteristics

	unit	min	typ	max
photocathode: bialkali				
active diameter	mm		46	
quantum efficiency at peak	%		25	
luminous sensitivity	µA/lm		95	
with CB filter		7	11	
with CR filter			7	
dynodes: 11VBSbCs				
anode sensitivity in divider A:				
nominal anode sensitivity	A/lm		200	
max. rated anode sensitivity	A/lm		2000	
overall V for nominal A/lm	V		1030	1350
overall V for max. rated A/lm	V		1400	
gain at nominal A/lm	x 10^6		2	
dark current at 20 ºC:				
dc at nominal A/lm	nA		1.2	20
dc at max. rated A/lm	nA		12	
dark count rate	s^{-1}		1000	
pulsed linearity (-5% deviation):				
divider A	mA		2	
rate effect (I_a for Δ g/g=1%):	µA		20	
magnetic field sensitivity:				
the field for which the output decreases by 50 %				
most sensitive direction	T x 10^{-4}		1.4	
temperature coefficient:	% $°C^{-1}$		± 0.5	
timing:				
multi electron rise time	ns		10	
multi electron (fwhm)	ns		22	
transit time	ns		60	
weight:	g		160	
maximum ratings:				
anode current	µA			100
cathode current	nA			200
gain	x 10^6			21
sensitivity	A/lm			2000
temperature	°C	-30		60
V (k-a)(1)	V			2300
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



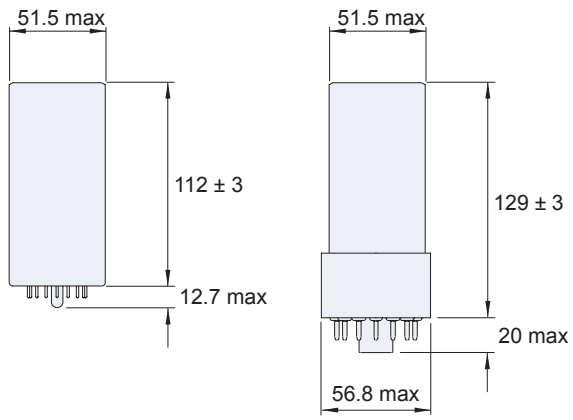
8 voltage divider distribution

	k	d_1	d_2	.....	d_8	d_9	d_{10}	d_{11}	a	
A	150V	R		.....	R	R	R	2R	R	Standard

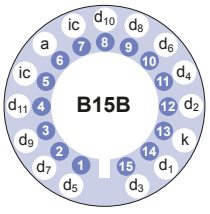
Characteristics contained in this data sheet refer to divider A unless stated otherwise.

9 external dimensions mm

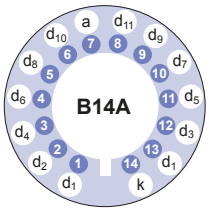
The drawings below show the 6097B in hardpin format and the 6097KB with the B14A cap fitted.



10 base configuration (viewed from below)



B15B hardpin base
(for 6097B)
'ic' indicates an internal connection



B14A cap
(for 6097KB)

Our range of B15B sockets is available to suit the hardpin base
Our range of B14A sockets is available to suit the B14A cap.
Both socket ranges include versions with or without a mounting flange, and versions with contacts for mounting directly onto printed circuit boards.

11 ordering information

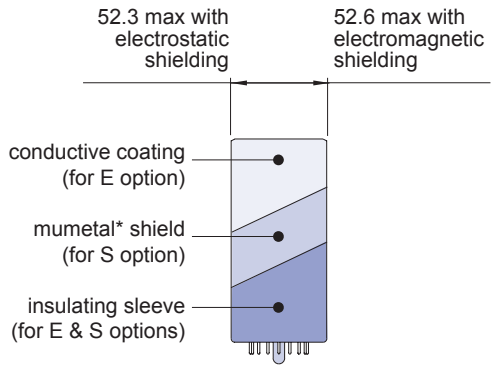
The 6097B meets the specification given in this data sheet. You may order **variants** by adding a suffix to the type number. You may also order **options** by adding a suffix to the type number. You may order product with **specification options** by discussing your requirements with us. If your selection option is for one-off order, then the product will be referred to as 6097A. For a repeat order, ET Enterprises Ltd. will give the product a two digit suffix after the letter B, for example B21. This identifies your specific requirement.

6097 ☐ ☐ ☐

base options
K capped

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



*mumetal is a registered trademark of Magnetic Shield Corporation

12 voltage dividers

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

6097B	6097KB	k	d_1	d_2	.....	d_6	d_7	d_8	d_9	d_{10}	a
C621E	C631E	2R	R		.....	R	R	R	2R	R	
C621F	C631F	2R	R		.....	R	2R	3R	4R	3R	

R = 330 kΩ

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choose accessories for this pmt on our website

an ISO 9001 and ISO 14001 registered company