51 mm (2") photomultiplier
9558B series data sheet

ET Enterprises electron tubes

1 description

The 9558B is a 51mm (2″) diameter end window photomultiplier, with S20 infra-red sensitive photocathode, and 11 high gain, high stability, SbCs dynodes of the long-established venetian blind design providing a low afterpulse rate. The 9558QB is a variant for applications requiring uv sensitivity.

2 applications

- wide range of applications

3 features

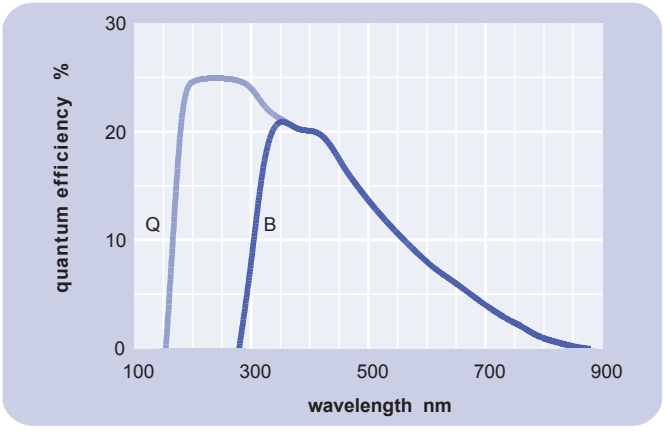
- high gain
- low afterpulsing

4 window characteristics

	9558B borosilicate	9558QB* fused silica
spectral range**(nm)	290 - 870	160 - 870
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

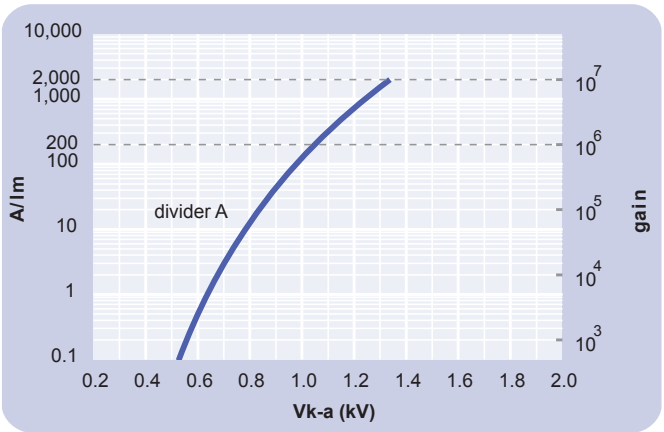


6 characteristics

	unit	min	typ	max
photocathode: S20				
active diameter	mm		46	
quantum efficiency at peak	%		21	
luminous sensitivity	μA/lm		200	
with CB filter		6	9	
with CR filter			90	
with IR filter		7	13	
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		1050	1500
overall V for max. rated A/lm	V		1400	
gain at nominal A/lm	x 10^6		1	
dark current at 20 °C:				
dc at nominal A/lm	nA		2	20
dc at max. rated A/lm	nA		20	
dark count rate	s^{-1}		15000	
pulsed linearity (-5% deviation):				
divider A	mA		2	
rate effect (I_a for Δg/g=1%):	μA		20	
magnetic field sensitivity: the field for which the output decreases by 50 %				
most sensitive direction	T x 10^{-4}		1.7	
temperature coefficient:	% $°C^{-1}$		± 0.5	
timing:				
single electron rise time	ns		10	
single electron fwhm	ns		22	
transit time	ns		65	
weight:	g		180	
maximum ratings:				
anode current	μA			100
cathode current	nA			1000
gain	x 10^6			10
sensitivity	A/lm			2000
temperature	°C	-80		60
V (k-a)(1)	V			2300
V (k-d1)	V			450
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)

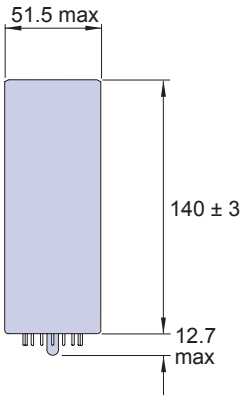
7 typical voltage gain characteristics



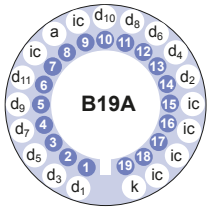
8 voltage divider distribution

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

9 external dimensions mm



10 base configuration (viewed from below)



'ic' indicates an internal connection

Our range of B19A sockets is available to suit the B19A hardpin base. The range includes versions with or without a mounting flange, and versions with contacts for mounting directly onto printed circuit boards.

11 ordering information

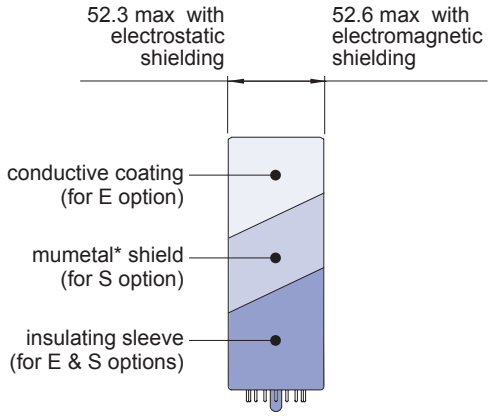
The 9558B meets the specification given in this data sheet. You may order **variants** by adding a suffix to the type number. You may also order **options** by adding a suffix to the type number. You may order product with **specification options** by discussing your requirements with us. If your selection option is for one-off order, then the product will be referred to as 9558B. 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.

9558 □ □ □

window variants
- **W** UV glass
- **Q** fused silica

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



12 voltage dividers

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

	k	d_1	d_2	.....	d_7	d_8	d_9	d_{10}	d_{11}	a
C625E	2R	R	.....		R	R	R	R	R	
C625F	150V	R	.....		R	R	R	R	R	

R = 330k Ω

*mumetal is a registered trademark of Magnetic Shield Corporation

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choose accessories for this pmt on our website

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