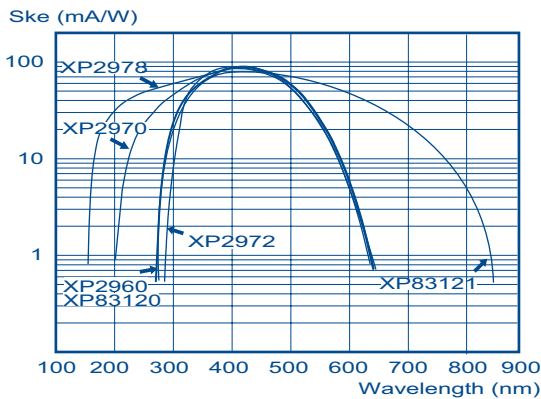


# 29 mm (1 1/8") tubes

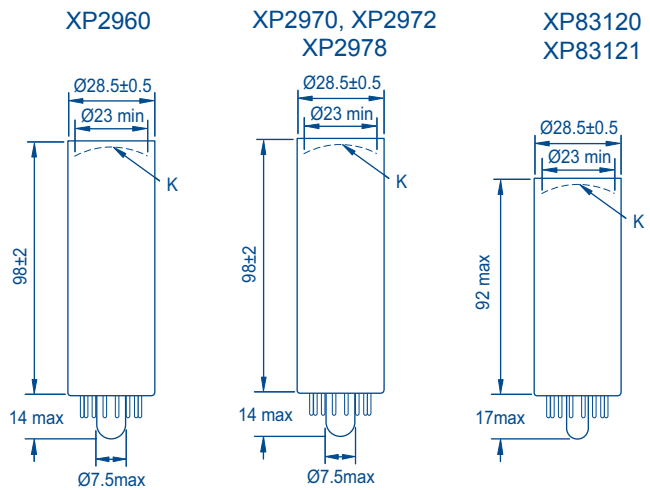
	XP2960	XP2970	XP2972	XP2978	XP83120	XP83121
<b>Key features</b>	fast, low-voltage	fast, low voltage, UV-sensitive	fast	fast, low voltage, UV-sensitive	---	red-sensitive
<b>Dynode structure / number of stages</b>	focused/8	focused/10	focused/10	focused/10	focused/10	focused/10
<b>Cathode luminous sensitivity (µA/lm)</b>	typ. 85	85	90	85	120	200 (100 min)
<b>Cathode blue sensitivity (µA/lmF)</b>	min 9	9	9	9	7.8	45
<b>Red sensitivity for XP83121</b>	typ. 11	11	11	11	10.8	90
<b>Cathode radiant sensitivity (mA/W)</b>	typ. at (nm)	85 mA/W	85 mA/W	85 mA/W	90 mA/W	80 mA/W
		270 400 650	190 420 650	290 420 650	270 370 650	270 370 850
<b>Gain</b>	typ. 9.1x10 <sup>5</sup>	9.1x10 <sup>5</sup>	9.3x10 <sup>5</sup>	9.3x10 <sup>5</sup>	1.7x10 <sup>6</sup>	5x10 <sup>5</sup>
<b>Supply voltage</b>	typ. 1 350	1 100	1 300	1 200	1 000	1 100
	min. (V)	1 100	900	1 000	---	---
	max. (V)	1 500	1 300	1 500	---	---
<b>Anode dark current</b>	typ. (nA)	2	1	5	1.2	2
	max. (nA)	10	5	20	20	20
<b>Max. anode pulse current for linearity 2% (mA)</b>	80	80	80	80	20	20
<b>Time response</b>	rise (ns)	1.9	1.9	1.9	1.6	1.6
	FWHM (ns)	3	3	3	---	---
<b>PHR (%)</b>	7.7	7.7	7.7	7.7	7.5	---
<b>Maximum ratings</b>	supply voltage (V)	1 600	1 800	1 800	1 700	1 700
	gain	1x10 <sup>6</sup>	1x10 <sup>7</sup>	1x10 <sup>7</sup>	5x10 <sup>7</sup>	2x10 <sup>7</sup>
<b>Accessories</b>	Voltage divider	VD189	VD189	VD109	VD109	VD2345
	Socket	FE1114, FE3114	FE1114, FE3114	FE1114, FE3114	FE1114, FE3114	FE1114, FE3114
	Mu-metal shields	MS179	MS179	MS179	MS179	MS179

PHR: for radiation source <sup>137</sup>Cs, NaI TI scintillator, Ø 25 mm, h25 mm.  
 For XP83120 and XP83121: max anode pulse current (mA) given for linearity 5%.

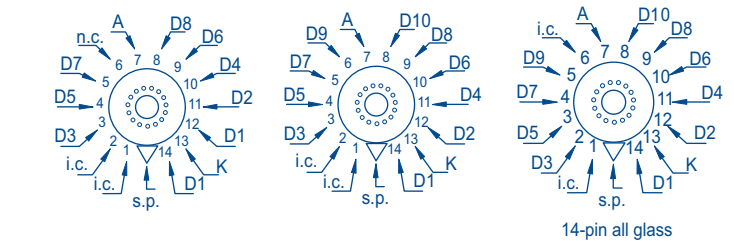
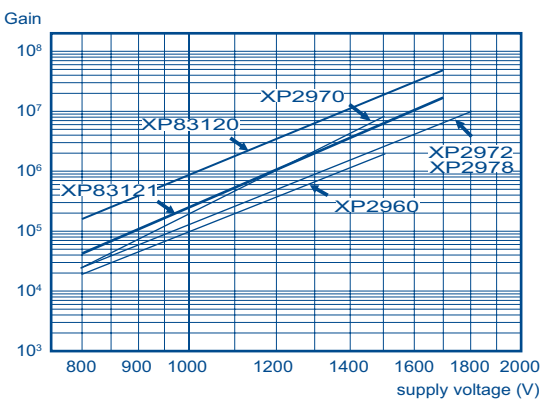
## Typical spectral characteristics



## Dimensions and pinning



## Typical gain curves



## Voltage dividers

Tube	A divider type voltage ratios (for maximum gain)							
	K	D1	D2	D3	D4	...	Dn	A
XP2960, XP2970, XP2972, XP2978	2	1	1.5	1	1	...	1	1
XP83120, XP83121	3	1	1.5	1	1	...	1	1