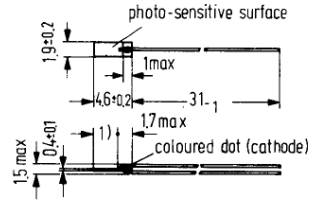# BP 100

Silicon photo-voltaic cell

The silicon photo-voltaic cell BP 100 is suitable for use in control and regulating devices. Its high response sensitivity, its small dimensions, and the high permissible operating temperature favour universal application.

Since a case can be dispensed with, the cell lends itself to the assembly of high-efficiency scanning systems. For this purpose the cells may be glued closely together on suitable supports. The photo-insensitive side of the element is marked by a yellow dot.

Typ	Order number
BP 100	Q 60215-X100

See mounting instructions

photo-sensitive surface

1) contact surface 27 min

Weight approx. 0.2 g   Dimensions in mm

Maximum ratings

		BP 100	
Reverse voltage[1]	V_R	1	V
Ambient temperature	T_{amb}	-25 to $+100$	°C

Characteristics ($T_{amb} = 25\,°C$)

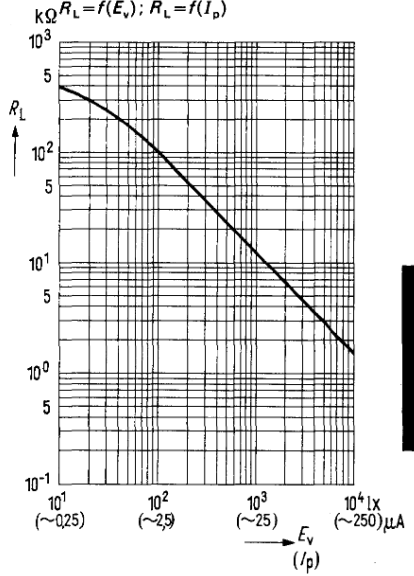|			
Open-circuit voltage ($E_v = 100$ lx)[2]	V_L	$\geqq 120$	mV
Open-circuit voltage ($E_v = 1000$ lx)[2]	V_L	$\geqq 200$	mV
Short-circuit current ($E_v = 1000$ lx)[2]	I_K	25	μA
Photo sensitivity (short circuit current I_K)[2]	S	25 ($\geqq 15$)	nA/lx
Spectral sensitivity maximum	λ_{smax}	0.85	μm
Rise time (for 60% I_K)	t_r	4	μs
Temp. coeffic. of the open-circuit voltage	TC	-2.6	mV/K
Temp. coeffic. of the short-circuit current	TC	0.121	%/K
Capacitance ($V_R = 0$ V)	C_o	1	nf
Light sensitive area	A	7	mm²
Dark current ($V_R = 1$ V; $T_{amb} = 25\,°C$; $E_v = 0$ lx)	I_R	3 ($\leqq 10$)	μA
Dark current ($V_R = 1$ V; $T_{amb} = 50\,°C$; $E_v = 0$ lx)	I_R	7	μA

[1] Plus pole of voltage source connected to lead on the colour dot side.

[2] The illuminances indicated refers to a radiation source with standard light A acc. to DIN 5033, tungsten filament lamp, colour temperature $T_F = 2856$ K (unfiltered incandescent lamp light).

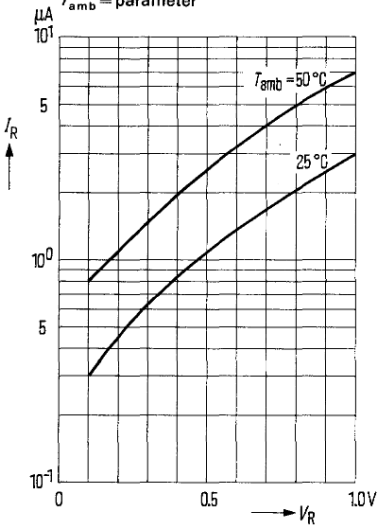**Open-circuit voltage $V_L = f(E_v)$**
Short-circuit current $I_K = f(E_v)$
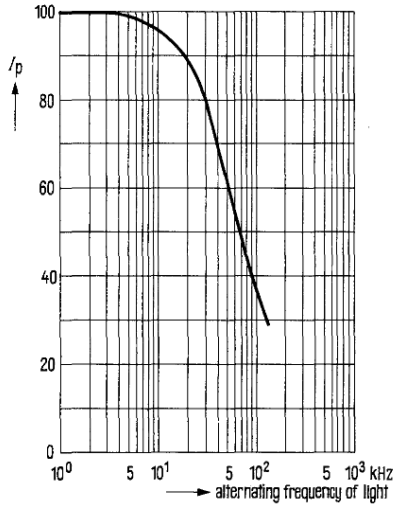

Matching impedance resistor for optimal power output
$k\Omega$ $R_L = f(E_v)$; $R_L = f(I_p)$

Dark current $I_R = f(V_R)$
$T_{amb} = $ parameter

$T_{amb} = 50\,°C$
$25\,°C$

Mean photo current as a function of the light alternating frequency $R_L = 1\ k\Omega$; $E_v = 1000\ lx$

alternating frequency of light

BP 100

Directional characteristic $I_K = f(\varphi)$

photovoltaic cell

74