

IMPAC IS 12-Si

Addendum to IS 12/IGA 12 Data Sheet

Digital pyrometer for non-contact temperature measurement of silicon wafers between 350 and 1800°C (662 to 3272°F).



The Impac® IS 12-Si is a special version of the IS 12, developed for the temperature measurement of silicon wafers. The pyrometer is equipped with a optical narrow band filter in the near infrared. This enables a reliable measurement of thin silicon from 350°C which otherwise is transparent for infrared radiation. In this special spectral range the emissivity of silicon is 67% and it is almost independent from temperatures. This allows the IS 12-Si to detect the correct temperature of the silicon wafer.

In the beginning of the temperature range, the IS 12-Si is sensitive against light. This sensitivity decreases with increasing temperature. In applications which require the low temperatures at the beginning of the range this effect can be avoided by screening against the light.

PRODUCT HIGHLIGHTS

- Four temperature ranges between 350 and 1800°C (662 to 3272°F)
- Spectral range: narrow band in the near infrared, especially for measurements of silicon
- Six fixed optics and three focusable optics
- Response time 10 ms, adjustable up to 10 s

OPTICS

Focusable Optics		
Optics	Measuring Distance a [mm]	Spot Size M ₉₀ [mm] MB 13 (400 to 1300°C)
1	275 to 520	2.3 to 5
2	385 to 1125	3.1 to 10.5
3	540 to 9000	4 to 80
Aperture D [mm]		13.5 to 17

Fixed Optics				
Optics	Measuring Distance a [mm]	Spot Size M ₉₀ [mm]		
		MB 9 400 to 900°C	MB 10L ¹ 350 to 1000°C	MB 18 500 to 1800°C
1	80	1.2	-	0.7
2	120	1.4	2.2	0.6
3	250	2.4	4.4	0.8
4	660	6.2	10.5	2
5	1300	12	20	3.8
6	5600	50	86	5
Aperture D [mm]		19	27	19

¹ MB 10L is equipped with special lenses

REFERENCE NUMBERS

IS 12-Si		
Reference Number	Temperature Range	Description
3 840 320	400 to 1300°C (752 to 2372°F) (MB 13)	With focusable optics, thru-lens view finder and targeting light
3 840 300	400 to 900°C (752 to 1652°F) (MB 9)	With fixed optics, thru-lens view finder and targeting light
3 840 310	350 to 1000°C (662 to 1832°F) (MB 10)	With fixed optics, thru-lens view finder and targeting light
3 840 330	500 to 1800°C (932 to 3272°F) (MB 18)	With fixed optics, thru-lens view finder and targeting light



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