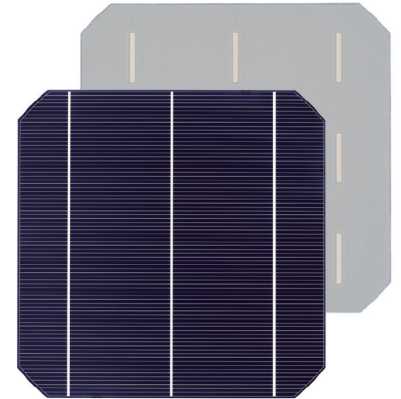


TNM3-156

Monocrystalline Solar Cell

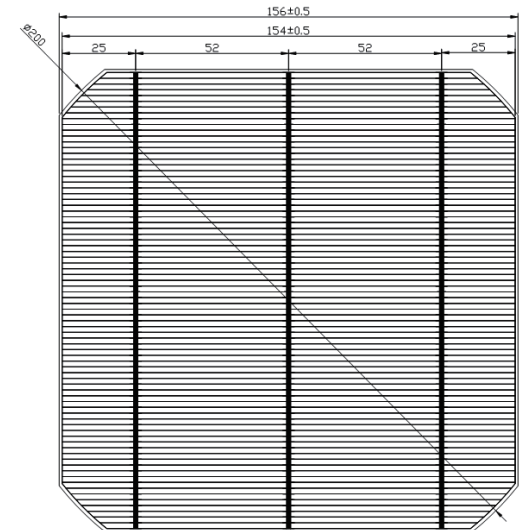


Dimension	156mm x 156mm $\pm$ 0.5mm
Diagonal	200mm $\pm$ 1.0mm (Straight chamfers)
Thickness(Si)	180 μ m $\pm$ 20 μ m, 200 μ m $\pm$ 20 μ m
Front	Anisotropically texturized surface and dark silicon nitride anti-reflection coatings 1.4mm silver busbars
Back	Full-surface aluminum back-surface field 2.5mm (silver / aluminum) discontinuous soldering pads



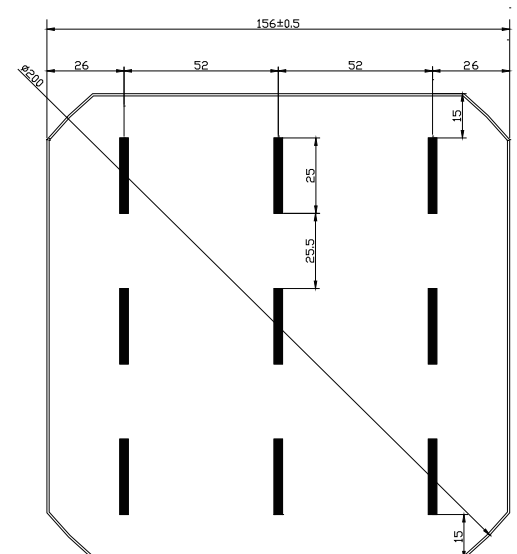
► Features

- > High conversion efficiencies resulting in superior power output performance
- > Outstanding power output even in low light or high temperature conditions
- > Optimized design for ease of soldering and lamination
- > Long-term stability, reliability and performance
- > Low breakage rate
- > Color uniformity



► Production and Quality Control

- > Precision cell efficiency sorting procedures
- > Stringent criteria for color uniformity and appearance
- > Reverse current and shunt resistance screening
- > REACH-SVHC test passed, ISO9001, ISO14001 and OHSAS 18001 certificated
- > Calibrated against Fraunhofer ISE



* See the reverse side for more detail

Electrical Performance

Efficiency Code		196	195	194	193	192	191	190	189
Efficiency	Eff(%)	19.60	19.50	19.40	19.30	19.20	19.10	19.00	18.90
Power	Ppm(W)	4.68	4.66	4.64	4.61	4.59	4.56	4.54	4.52
Max. Power Current	Ipm(A)	8.64	8.61	8.58	8.55	8.53	8.51	8.49	8.48
Short Circuit Current	Isc(A)	9.14	9.11	9.08	9.05	9.03	9.02	9.01	9.01
Max. Power Voltage	Vpm(V)	0.542	0.541	0.541	0.539	0.538	0.536	0.535	0.533
Open Circuit Voltage	Voc(V)	0.643	0.643	0.642	0.641	0.641	0.640	0.639	0.638
Efficiency Code		188	187	186	185	184	183	182	181
Efficiency	Eff(%)	18.80	18.70	18.60	18.50	18.40	18.30	18.20	18.10
Power	Ppm(W)	4.49	4.47	4.44	4.42	4.40	4.37	4.35	4.32
Max. Power Current	Ipm(A)	8.47	8.46	8.44	8.42	8.40	8.38	8.34	8.33
Short Circuit Current	Isc(A)	9.01	9.00	9.00	8.99	8.98	8.96	8.95	8.95
Max. Power Voltage	Vpm(V)	0.530	0.528	0.526	0.525	0.524	0.522	0.521	0.519
Open Circuit Voltage	Voc(V)	0.636	0.635	0.634	0.633	0.632	0.630	0.630	0.638

Standard test condition : AM1.5, 1000W/m², 25°C.

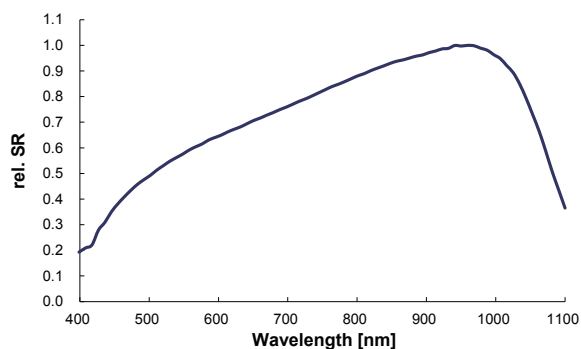
Average accuracy of all tested figures is ±1.5% rel.

Temperature Coefficients

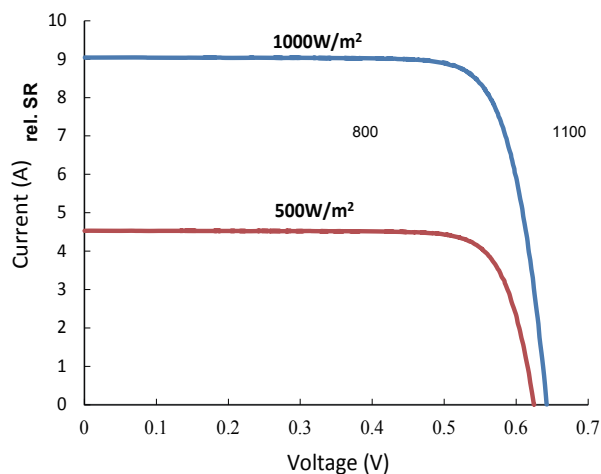
Current Temperature Coefficient	α (Isc)	0.05 %/°C
Voltage Temperature Coefficient	β (Voc)	-0.32 %/°C
Power Temperature Coefficient	γ (Pmax)	-0.42 %/°C

Standard test condition : AM1.5, 1000W/m², 25°C.

Spectral Response(SR)



IV Curve



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