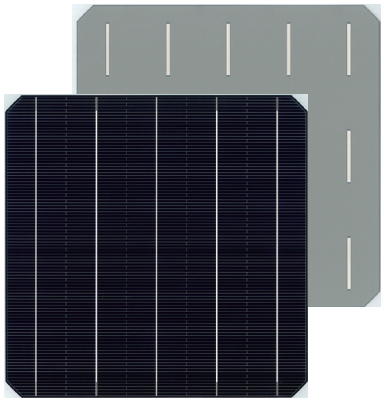
TNM5-156

Monocrysalline Solar Cell

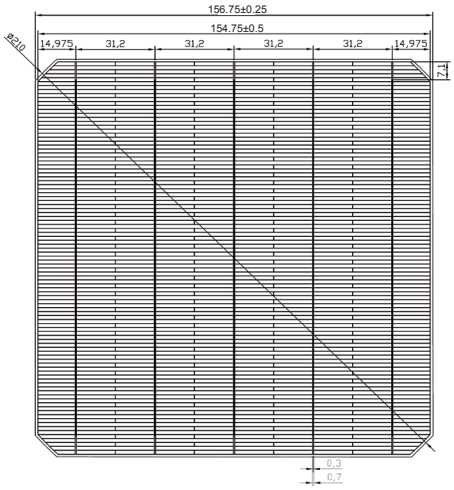
TOPSKY ENERGY®

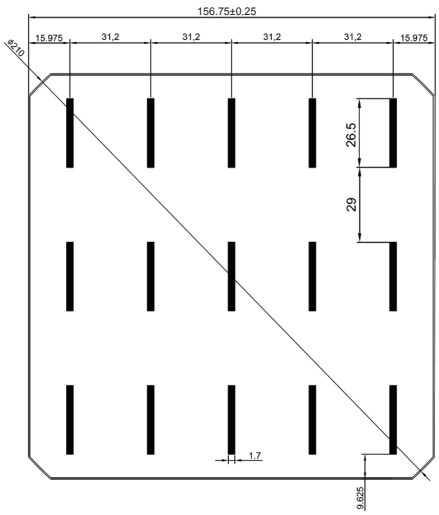


Dimension	156.75mm x 156.75mm ± 0.25mm
Diagonal	210mm ± 0.5mm (round chamfers)
Thickness(Si)	180μm ± 20μm, 200μm ± 20μm
Front	Anisotropically texturized surface and dark silicon nitride anti-reflection coatings
	0.7mm silver busbars
Back	Full-surface aluminum back-surface field
	1.7mm (silver / aluminum) 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
- Uniform Color





Production and Quality Control

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

* See the reverse side for more detail

Electrical Performance

		204	203	202	201	200	199
Efficiency	Eff(%)	20.40	20.30	20.20	20.10	20.00	19.90
Power	Ppm(W)	4.98	4.96	4.94	4.91	4.89	4.86
Max. Power Current	Ipm(A)	8.96	8.94	8.91	8.89	8.87	8.84
Short Circuit Current	Isc(A)	9.40	9.39	9.37	9.36	9.35	9.34
Max. Power Voltage	Vpm(V)	0.557	0.555	0.554	0.553	0.551	0.550
Open Circuit Voltage	Voc(V)	0.649	0.648	0.648	0.647	0.647	0.646
Efficiency Code		**198**	**197**	**196**	**195**	**194**	
Efficiency	Eff(%)	19.80	19.70	19.60	19.50	19.40	
Power	Ppm(W)	4.84	4.81	4.79	4.76	4.74	
Max. Power Current	Ipm(A)	8.82	8.79	8.77	8.74	8.72	
Short Circuit Current	Isc(A)	9.32	9.31	9.30	9.29	9.27	
Max. Power Voltage	Vpm(V)	0.549	0.548	0.546	0.545	0.544	
Open Circuit Voltage	Voc(V)	0.646	0.646	0.645	0.645	0.644	

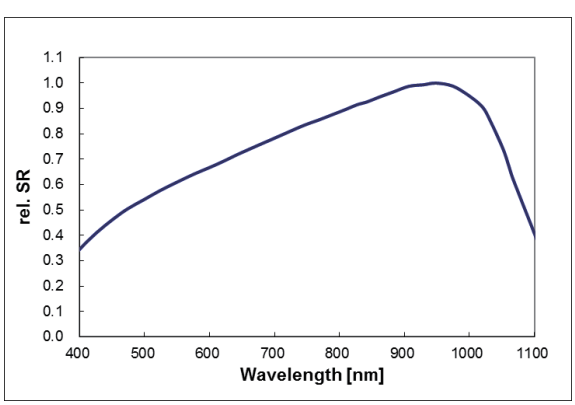
Standard test conditions: AM1.5, 1000W/m², 25°C. Average accuracy of all tested figures is ±1.5% rel.

Temperature Coefficients

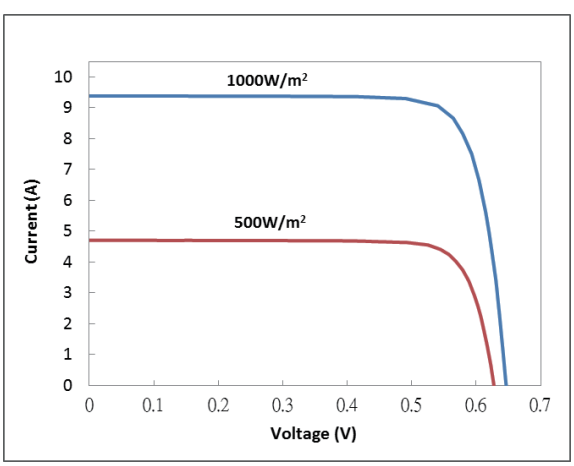
Current Temperature Coefficient	α(Isc)	0.04%/°C
Voltage Temperature Coefficient	β(Voc)	-0.33%/°C
Power Temperature Coefficient	γ (Pmax)	-0.41%/°C

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

Spectral Response(SR)



IV Curve



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