

Power Quality Crest Factor Calculator

Convert peak and true-RMS waveform readings into crest factor and peak-to-peak values for a power-quality review.

Generated October 10, 2026

<https://www.elecatrix.com/power-quality-transformers/power-quality-crest-factor-calculator/>

Inputs

Input	Value	Unit
Measurement type	Current	
Absolute peak	170	V/A
Positive peak	170	V/A
Negative peak	-150	V/A
RMS value	120	V/A
Peak-to-peak value	320	V/A

Results

Result	Value	Unit
Crest factor	1.4167	x
Absolute peak used	170	V/A
RMS value	120	V/A
Peak-to-peak value used	320	V/A
Measurement type used	Current	
Peak source summary	absolute peak input	

Calculation details

Detail	Value	Unit
Calculation basis	Crest factor equals absolute peak divided by true-RMS. Peak-to-peak equals positive peak plus absolute negative peak when both are provided.	

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Waveform boundary	Crest factor is a waveform metric only; it does not prove equipment failure, harmonic compliance, or transformer derating.
Measurement boundary	Use the same unit for all waveform values and confirm the instrument capture window, scaling, and channel type separately.

Formulas

$$\text{Crest factor} = \frac{X_{\text{peak}}}{X_{\text{RMS}}}$$

$$X_{\text{peak-to-peak}} = X_{\text{positive peak}} + |X_{\text{negative peak}}|$$

$$X = V \text{ or } I \text{ from the selected measurement type}$$

Warnings and limitations

This waveform metric is a summary only. It does not prove equipment failure, harmonic compliance, or transformer derating by itself.