



DID YOU KNOW? HOW TO AVOID OVER-SPECIFYING DURING COMPONENT SHORTAGES

A New MLCC Replacement Guide from Vishay

In many designs the voltage ratings of multilayer ceramic capacitors (MLCC) are over-specified. The reasons for this are many, including reducing the number of part numbers on the PCB board and designing common part numbers into the circuit.

During shortages, however, this over-specification can result in more costly substitution / replacement devices being ordered. Vishay has developed a quick reference guide for many common case size and applied voltage options to better meet the “real” requirements of the design and therefore enable more cost-effective solutions to be identified.

On this quick guide webpage, the information is organized by applied voltage, case size, and capacitance. Please note, applied voltage is the DC bias voltage level that will be present on the capacitor during operation. For example, for a capacitor with an applied voltage of 12 V, devices with a rated voltage of 16 V will be offered. Polymer capacitors require a 20 % voltage derating. Please note that applied voltage is not a maximum voltage as long as the 20 % derating is met (e.g. $16\text{ V} * 80\% = 12.8\text{ V}$).

[CLICK HERE](#) for more information.

MLCC - Polymer / Tantalum Substitution

APPLIED VOLTAGE OPTIONS
This information is organized by Applied Voltage, Case Size, and Capacitance. Applied Voltage is the DC bias voltage level that will be present on the capacitor during operation. For example, for a capacitor with an Applied Voltage of 12 V, devices with a Rated Voltage of 16 V will be offered. Polymer capacitors require a 20% voltage derating. Please note that Applied Voltage is not a maximum voltage as long as the 20% derating is met. (e.g. $16\text{ V} * 80\% = 12.8\text{ V}$.)

2 V	3.3 V	5 V
12 V	28 V	

COMMERCIAL LISTING
MLCC Part Number Cross-Reference

NEED HELP? PART NOT COVERED?
If you have any questions about this information or wish to have our team of experts propose a cross for a part not covered here, please contact tantalum@vishay.com.

Please note, any Vishay part number submitted by this cross-reference tool is not guaranteed to be an exact technical or mechanical equivalent of the component part. Please review the Vishay datasheet for detailed specifications.

Technical Article
Considerations for Substituting Surface Mount MLCCs
[READ ARTICLE](#)

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APPLIED VOLTAGE: 28 V (OR LESS) (DC BIAS)

MLCC Case Size / SMD Metric	APPROX DROP-IN CASE SIZES				ALTERNATE CASE SIZES
	0603 / 1608	0805 / 2012	1206 / 3216	1210 / 3225	
1 µF	T59MM10M03C0300 1µF08V18.5Q18038	T59W010M03C0300 1µF08V18.5Q18038			2917 / 7343 MORE INFO
2.2 µF					
8.8 µF			T59MM10M03C0300 8.8µF28V200mC03028		
10 µF			T59W10M03C0300 10µF28V200mC03028		
15 µF					T59V10M03C0303 15µF28V125mC07343
22 µF					T59V22M03C03075 22µF28V170mC07343
33 µF					T59D33M03C03100 33µF28V105mC07343

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