

# Automotive MLCC Part Selection Recommendations



**SAMSUNG**  
ELECTRO-MECHANICS

Size	Voltage	<10p	<100p	100p	220p	470p	1n	2.2n	4.7n	10n	22n	47n	100n	220n	470n	1u	2.2u	4.7u	10u	22u	47u	100u	Voltage		
1210"	100V																X7R							100V	
	50V																								50V
	25V																								25V
	16V																								16V
	6.3V																								6.3V
	4V																								4V
1206"	100V																X7R								100V
	50V																								50V
	25V																								25V
	16V																								16V
	6.3V																								6.3V
	4V																								4V
0805"	100V																								100V
	50V																								50V
	25V																								25V
	16V																								16V
	6.3V																								6.3V
	4V																								4V
0603"	100V																								100V
	50V																								50V
	25V																								25V
	16V																								16V
	6.3V																								6.3V
	4V																								4V
0402"	100V																								100V
	50V																								50V
	25V																								25V
	16V																								16V
	10V																								10V
	6.3V																								6.3V

**COG**

- 5% tolerance is standard
- 50V & 100V are most used
- E6 is recommended

1 | 1.5 | 2.2 | 3.3 | 4.7 | 6.8

**X7R | X7S | X7T**

- 10% tolerance is standard
- 6.3V | 16V | 50V | 100V in focus
- E3 is recommended

1 | 2.2 | 4.7

Under Development	
Recommended	
Downsize if possible	Use only if ESD, pulse, DC-Bias or other constraints require it
Downsizing or higher V Recommended	Usually no downsizing limitations exist