



**THE DATASHEET OF  
C3225X7R1H335K250AB**



## C.3216.X7R.1H.105.K.160.

| Series Name |                      |
|-------------|----------------------|
| Description |                      |
| C           | General Purpose      |
| CKC         | Array                |
| CKG         | MEGACAP              |
| CLL         | Ultra Low Inductance |

| Case Size Code |      |     |     |
|----------------|------|-----|-----|
| C              | CKC  | CKG | CLL |
| 0.40 x 0.20    | 0402 |     |     |
| 0.50 x 1.00    | 0510 |     |     |
| 0.60 x 0.30    | 0603 |     |     |
| 0.80 x 1.60    | 0816 |     |     |
| 0.90 x 0.60    | N27  |     |     |
| 1.00 x 0.50    | 1005 |     |     |
| 1.25 x 2.00    | 1220 |     |     |
| 1.37 x 1.00    | M25  |     |     |
| 1.60 x 0.80    | 1608 |     | C1A |
| 1.60 x 3.20    | 1632 |     |     |
| 2.00 x 1.25    | 2012 | L22 | E1A |
|                |      | L44 |     |
| 3.20 x 1.60    | 3216 | A43 | G1A |
| 3.20 x 2.50    | 3225 |     |     |
| 3.80 x 2.90    |      | 32K |     |
| 4.50 x 2.00    | 4520 |     |     |
| 4.50 x 3.20    | 4532 |     |     |
| 5.50 x 4.00    |      | 45K |     |
|                |      | 45N |     |
| 5.70 x 5.00    | 5750 |     |     |
| 6.50 x 5.50    |      | 57K |     |
|                |      | 57N |     |
| 7.50 x 6.30    | 7563 |     |     |

| Temperature Characteristics |   |
|-----------------------------|---|
| Temperature                 | Temperature Coefficient or Capacitance Change |
| CH                          | -25°C to +85°C 0±60ppm/°C                     |
| C0G                         | -55°C to +125°C 0±30ppm/°C                    |
| NP0                         | -55°C to +150°C 0±30ppm/°C                    |
| JB                          | -25°C to +85°C ±10%                           |
| X5R                         | -55°C to +85°C ±15%                           |
| X6S                         | -55°C to +105°C ±22%                          |
| X7R                         | -55°C to +125°C ±15%                          |
| X7S                         | -55°C to +125°C ±22%                          |
| X7T                         | -55°C to +125°C +22, -33%                     |
| X8R                         | -55°C to +150°C ±15%                          |

| Capacitance Tolerance |          |
|-----------------------|----------|
| Description           |          |
| B                     | ±0.10 pF |
| C                     | ±0.25 pF |
| D                     | ±0.50 pF |
| F                     | ±1%      |
| G                     | ±2%      |
| J                     | ±5%      |
| K                     | ±10%     |
| M                     | ±20%     |

| Thickness Code |         |
|----------------|---------|
| Description    |         |
| 020            | 0.20 mm |
| 030            | 0.30 mm |
| 045            | 0.45 mm |
| 050            | 0.50 mm |
| 055            | 0.55 mm |
| 060            | 0.60 mm |
| 070            | 0.70 mm |
| 080            | 0.80 mm |
| 085            | 0.85 mm |
| 100            | 1.00 mm |
| 110            | 1.10 mm |
| 115            | 1.15 mm |
| 125            | 1.25 mm |
| 130            | 1.30 mm |
| 160            | 1.60 mm |
| 200            | 2.00 mm |
| 230            | 2.30 mm |
| 250            | 2.50 mm |
| 280            | 2.80 mm |
| 290            | 2.90 mm |
| 320            | 3.20 mm |
| 335            | 3.35 mm |
| 500            | 5.00 mm |

| Rated Voltage Code |      |      |      |    |     |      |      |     |      |
|--------------------|------|------|------|----|-----|------|------|-----|------|
| A                  | C    | D    | E    | F  | G   | H    | J    | V   | W    |
| 0                  |      |      |      | 4V |     |      | 6.3V |     |      |
| 1                  | 10V  | 16V  | 25V  |    | 50V |      |      | 35V |      |
| 2                  | 100V | 200V | 250V |    |     | 630V |      |     | 450V |
| 3                  | 1KV  | 2KV  | 3KV  |    |     |      |      |     |      |

**Nominal Capacitance**

The capacitance is expressed in three digit codes as follows:  
 The first and second digits identify the first and second significant digits of the nominal capacitance.  
 The third digit identifies the multiplier or multiplier point.  
 Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF

## CGA.5.L.3.X7R.1H.105.K.16

| Series Name |                        |
|-------------|------------------------|
| Description |                        |
| CGA         | Automotive Grade       |
| CGJ         | High Reliability Grade |
| CEU         | Serial Design          |

| Case Size Code |     |     |
|----------------|-----|-----|
| CGA            | CGJ | CEU |
| 0.60 x 0.30    | 1   |     |
| 1.00 x 0.50    | 2   | 2   |
| 1.60 x 0.80    | 3   | 3   |
| 2.00 x 1.25    | 4   | 4   |
| 3.20 x 1.60    | 5   | 5   |
| 3.20 x 2.50    | 6   |     |
| 4.50 x 2.00    | 7   |     |
| 4.50 x 3.20    | 8   |     |
| 5.70 x 5.00    | 9   |     |

| Thickness Code |         |
|----------------|---------|
| Description    |         |
| A              | 0.30 mm |
| B              | 0.50 mm |
| C              | 0.60 mm |
| E              | 0.80 mm |
| F              | 0.85 mm |
| G              | 1.10 mm |
| H              | 1.15 mm |
| J              | 1.25 mm |
| K              | 1.30 mm |
| L              | 1.60 mm |
| M              | 2.00 mm |
| N              | 2.30 mm |
| P              | 2.50 mm |
| Q              | 2.80 mm |
| R              | 3.20 mm |

| Capacitance Tolerance |           |
|-----------------------|-----------|
| Description           |           |
| C                     | ± 0.25 pF |
| D                     | ± 0.50 pF |
| F                     | ± 1%      |
| J                     | ± 5%      |
| K                     | ± 10%     |
| M                     | ± 20%     |

**Nominal Capacitance**

The capacitance is expressed in three digit code (pF). The first and second digits identify the first two of the capacitance. The third digit identifies the decimal point.  
 Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF

| Life Test Condition or Function Identification Code |                     |
|---|---------------------|
| Description   |                     |
| 1   | 1.0 x Rated Voltage |
| 2   | 2.0 x Rated Voltage |
| 3   | 1.5 x Rated Voltage |
| 4   | 1.2 x Rated Voltage |
| A   | ESD Protection      |

| Temperature Characteristics |                 |                                   |
|-----------------------------|-----------------|-----------------------------------|
| Temperature                 | Temperature     | Coefficient of Capacitance Change |
| C0G                         | -55°C to +125°C | 0±30ppm/°C                        |
| NP0                         | -55°C to +150°C | 0±30ppm/°C                        |
| X5R                         | -55°C to +85°C  | ±15%                              |
| X6S                         | -55°C to +105°C | ±22%                              |
| X7R                         | -55°C to +125°C | ±15%                              |
| X7S                         | -55°C to +125°C | ±22%                              |
| X7T                         | -55°C to +125°C | +22, -33%                         |
| X8R                         | -55°C to +150°C | ±15%                              |

| Rated Voltage Code |      |      |      |      |      |     |
|--------------------|------|------|------|------|------|-----|
| A                  | C    | D    | E    | F    | H    | J   |
| 0                  |      |      |      |      |      | 6.3 |
| 1                  | 10V  | 16V  | 25V  | 50V  |      |     |
| 2                  | 100V | 200V | 250V | 500V | 630V |     |
| 3                  | 1KV  | 2KV  |      | 3KV  |      |     |

# CGB.3.C.1.X5R.0J.106.M.06

| Series Name |             |
|-------------|-------------|
| Description | Low Profile |
| CGB         |             |

| Case Size Code |             |
|----------------|-------------|
| CGB            | Description |
| 1              | 0.60 x 0.30 |
| 2              | 1.00 x 0.50 |
| 3              | 1.60 x 0.80 |
| 4              | 2.00 x 1.25 |

| Thickness Code |              |
|----------------|--------------|
| Description    | Thickness    |
| T              | 0.22 mm max. |
| A              | 0.33 mm max. |
| S              | 0.50 mm max. |
| B              | 0.55 mm max. |
| C              | 0.65 mm max. |

| Capacitance Tolerance |           |
|-----------------------|-----------|
| Description           | Tolerance |
| K                     | ±10%      |
| M                     | ±20%      |

**Nominal Capacitance**

The capacitance is expressed in three digit codes (pF). The first and second digits identify the first of the capacitance. The third digit identifies the decimal point.

Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF

| Life Test Condition |                     |
|---------------------|---------------------|
| Description         | Condition           |
| 1                   | 1.0 x Rated Voltage |
| 3                   | 1.5 x Rated Voltage |

| Temperature Characteristics |                      |
|-----------------------------|----------------------|
| Temperature                 | Tolerance            |
| JB                          | -25°C to +85°C ±10%  |
| X5R                         | -55°C to +85°C ±15%  |
| X6S                         | -55°C to +105°C ±22% |
| X7R                         | -55°C to +125°C ±15% |
| X7S                         | -55°C to +125°C ±22% |

| Rated Voltage Code |         |
|--------------------|---------|
| Code               | Voltage |
| 0                  | 4V      |
| 1                  | 6.3V    |
| A                  | 10V     |
| C                  | 16V     |
| E                  | 25V     |

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