

Miniature Isolators

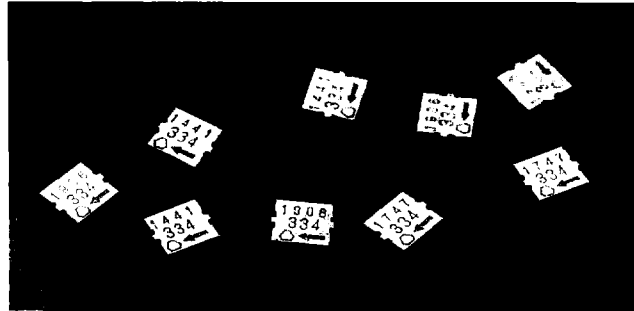
For Hand-held Phone

CU407 Series

Conventionally, 10mm [.394inches] square isolators have been used for movable communication terminal equipment. In response to the spread of pocket-sized portable telephones, TDK has developed compact, lightweight, surface-mountable, low-cost isolators.

FEATURES

- SMD-type compact isolator of about one third the volume and weight (7.3L × 7.3W × 4H mm [.287 × .287 × .157 inches], 0.8g) having a backward loss almost equal to that of conventional 10mm [.394 inches] square isolators.
- TDK Newly-developed low-loss Y1G material used. The temperature characteristics of the magnet has been optimized, dramatically reducing forward loss. Fluctuation of each characteristic due to temperature change has been also significantly reduced.
- Applicable to reflow soldering process.
- Tape and reel packagings are suitable for automatic mounting machines. Also available in bulk.



Miniature Isolators

For Hand-held Phone

CU407 Series

CU407 SERIES FOR 0.8 TO 1GHz BAND CELLULAR PHONES

ELECTRICAL CHARACTERISTICS

Part No.	Frequency range (MHz)	Center frequency (MHz)	Isolation (dB) min.	Insertion loss (dB) max.	VSWR max. $Z_0 = 50\Omega$	Maximum handling power (W) max.	Maximum reflection power (W)	System
CU407A*11F-836.5*2-1T	824 to 849	836.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	AMPS-Tx [U.S.A.]
CU407B1F-836.5-1T	824 to 849	836.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	AMPS-Tx [Europe]
CU407A1F-902.5-1T	890 to 915	902.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NMT-Tx, GSM-Tx [Europe]
CU407B1F-902.5-1T	890 to 915	902.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NMT-Tx, GSM-Tx [Europe]
CU407A1F-920-1T	915 to 925	920	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NCC-Tx [Japan]
CU407B1F-920-1T	915 to 925	920	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NCC-Tx [Japan]
CU407A1F-933.5-1T	925 to 942	933.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NTT-Tx [Japan]
CU407B1F-933.5-1T	925 to 942	933.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NTT-Tx [Japan]
CU407A1F-820-1T	810 to 830	820	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NTT-D-Rx [Japan]
CU407B1F-820-1T	810 to 830	820	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NTT-D-Rx [Japan]
CU407A1F-950-1T	940 to 960	950	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NTT-D-Tx [Japan]
CU407B1F-950-1T	940 to 960	950	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	NTT-D-Tx [Japan]
CU407A1F-888.5-1T	872 to 905	888.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	E-TACS-Tx [Europe]
CU407B1F-888.5-1T	872 to 905	888.5	15 [18 typ.]	0.9 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	E-TACS-Tx [Europe]

*1 Signal input/output direction (Refer to P.332)

*2 Center frequency (MHz)

• Temperature range: -20 to $+75^\circ\text{C}$

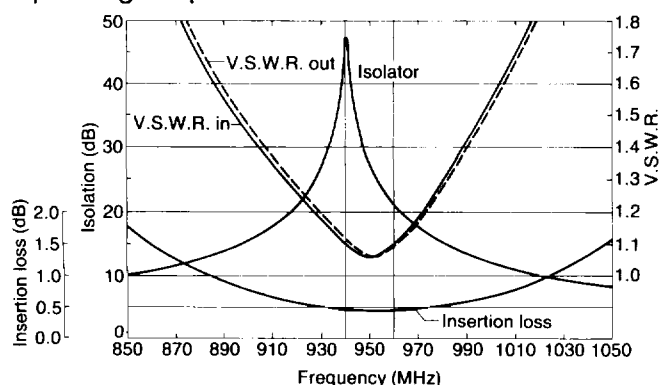
• The surface of case should be kept below 100°C during operation.

TYPICAL ELECTRICAL CHARACTERISTICS

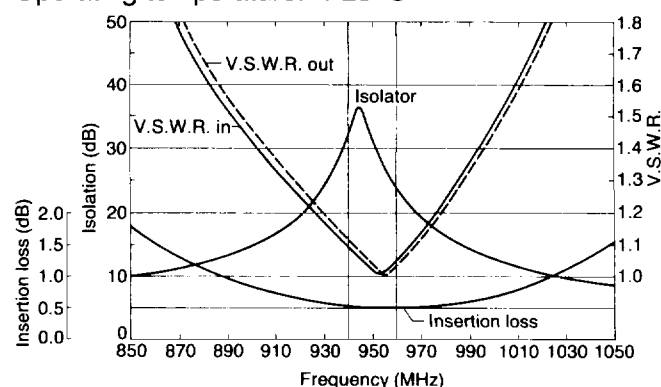
FREQUENCY CHARACTERISTICS

CU407B1F-950-1T

Operating temperature: -20°C



Operating temperature: $+23^\circ\text{C}$



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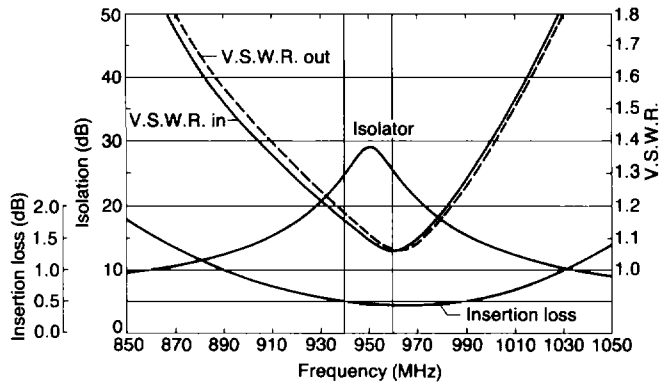
CU407 SERIES FOR 0.8 TO 1GHz BAND CELLULAR PHONES

TYPICAL ELECTRICAL CHARACTERISTICS

FREQUENCY CHARACTERISTICS

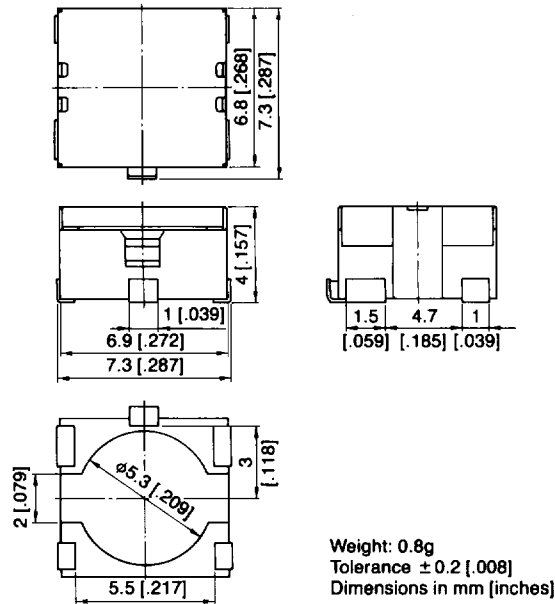
CU407B1F-950-1T

Operating temperature: +75°C

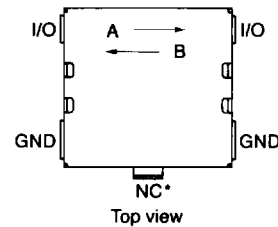


CU407 SERIES FOR 1 TO 2GHz BAND CELLULAR AND DIGITAL CORDLESS PHONES

SHAPES AND DIMENSIONS/TERMINAL CONNECTION



INPUT/OUTPUT TERMINAL POSITION AND SIGNAL DIRECTION



- * An I/O terminal for use as a circulator.
- A, B: Signal input/output direction



Miniature Isolators

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CU407 Series

CU407 SERIES FOR 1 TO 2GHz BAND CELLULAR AND DIGITAL CORDLESS PHONES ELECTRICAL CHARACTERISTICS

Part No.	Frequency range (MHz)	Center frequency (MHz)	Isolation (dB) min.	Insertion loss (dB) max.	VSWR max. $Z_0 = 50\Omega$	Maximum handling power (W) max.	Maximum reflection power (W)	System
CU407A*1F-1441*2-1T	1429 to 1453	1441	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PDC1.5-Tx
CU407B1F-1441-1T	1429 to 1453	1441	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PDC1.5-Tx
CU407A1F-1489-1T	1477 to 1501	1489	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PDC1.5-Rx
CU407B1F-1489-1T	1477 to 1501	1489	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PDC1.5-Rx
CU407A1F-1747.5-1T	1710 to 1785	1747.5	12 [15 typ.]	1 [0.8 typ.]	1.6 [1.4 typ.]	2.5	0.5	PCN-Tx
CU407B1F-1747.5-1T	1710 to 1785	1747.5	12 [15 typ.]	1 [0.8 typ.]	1.6 [1.4 typ.]	2.5	0.5	PCN-Tx
CU407A1F-1842.5-1T	1805 to 1880	1842.5	12 [15 typ.]	1 [0.8 typ.]	1.6 [1.4 typ.]	2.5	0.5	PCN-Rx
CU407B1F-1842.5-1T	1805 to 1880	1842.5	12 [15 typ.]	1 [0.8 typ.]	1.6 [1.4 typ.]	2.5	0.5	PCN-Rx
CU407A1F-1661.5-1T	1650 to 1673	1661.5	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PHP-L ₀
CU407B1F-1661.5-1T	1650 to 1673	1661.5	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PHP-L ₀
CU407A1F-1906.5-1T	1895 to 1918	1906.5	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PHP
CU407B1F-1906.5-1T	1895 to 1918	1906.5	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	PHP
CU407A1F-1890-1T	1880 to 1900	1890	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	DECT
CU407B1F-1890-1T	1880 to 1900	1890	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	DECT
CU407A1F-1925-1T	1921 to 1929	1925	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	CT-2 1900
CU407B1F-1925-1T	1921 to 1929	1925	15 [18 typ.]	0.8 [0.6 typ.]	1.5 [1.3 typ.]	2.5	0.5	CT-2-1900
CU407A1F-1906.5-8C*3	1895 to 1918	1906.5	15 [18 typ.]	1 [0.6 typ.]	1.5 [1.3 typ.]	2.5	—	PHP
CU407B1F-1906.5-8C*3	1895 to 1918	1906.5	15 [18 typ.]	1 [0.6 typ.]	1.5 [1.3 typ.]	2.5	—	PHP

*1 Signal input/output direction (Refer to P.334)

*2 Center frequency (MHz)

*3 These are circulators. (Other products can be converted to circulators upon customers' request)

• Temperature range: -20 to +75°C

• The surface of case should be kept below 100°C during operation.

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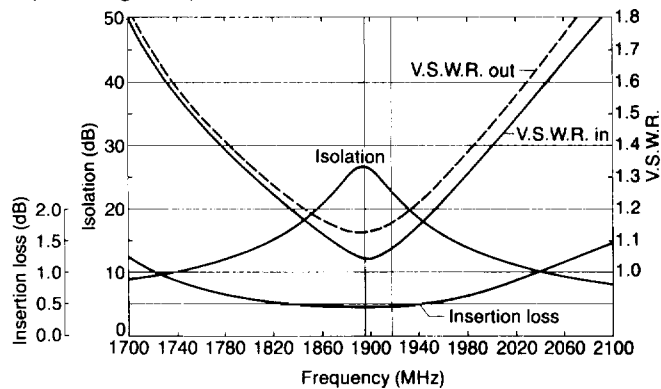
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TYPICAL ELECTRICAL CHARACTERISTICS

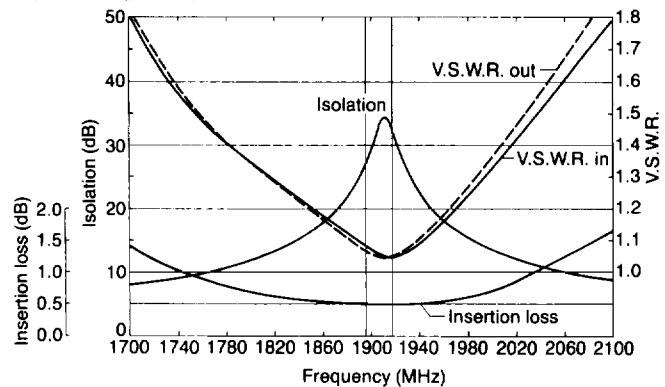
FREQUENCY CHARACTERISTICS

CU407A1F-1906.5-1T

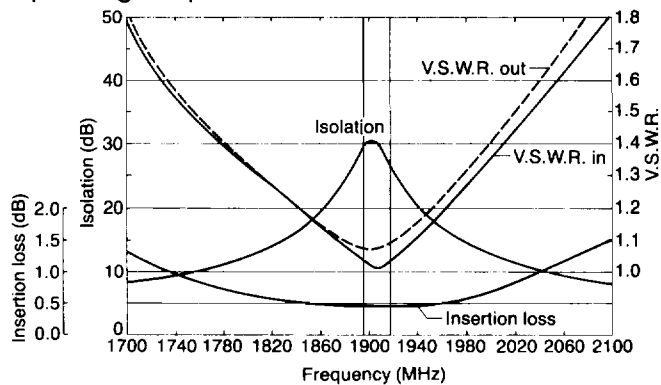
Operating temperature: -20°C



Operating temperature: $+75^{\circ}\text{C}$

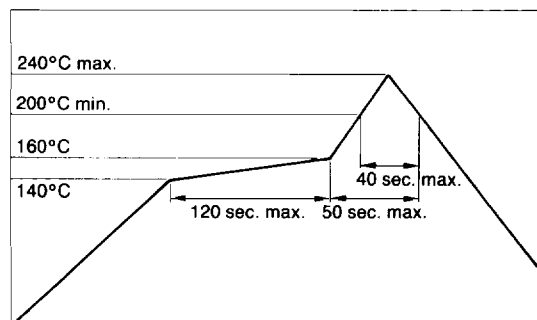


Operating temperature: $+23^{\circ}\text{C}$



RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



IRON SOLDERING

Perform soldering at 350°C max. within 15 seconds max. per 1 terminal. Take care not to apply the tip of the soldering iron to the terminal electrode.