

CERAMIC MICROWAVE FILTERS DUPLXERS—DP TYPE

FEATURES

- Low loss designs by use of high Q value dielectric material
- Small size by use of high dielectric constant ceramics
- Excellent temperature stability ($0 \pm 5\text{ppm/C max.}$)
- High mechanical stability. Resistant to damage caused by vibration.
- Reflow solderable
- Mountable by automatic placement

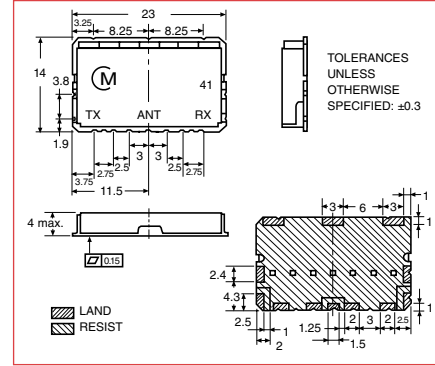
PART NUMBERING SYSTEM

| | | | | | | |
|--------------------|--|---|------------------|--|-------------------------|----------|
| | DFY | G | R836/R881 | C | NH | A |
| DESCRIPTION | TYPE | FREQUENCY IN GHZ | STYLE | PACKAGE STYLE | SPECIFICATION | |
| DFY: Duplexer | G: G Block K: K Block No Indication: DP Type (Discrete Resonator Style) | Example: R836: .836GHz (836MHz) IR88: 1.88GHz (1880MHz) | | NH: Monoblock HH: Monoblock BH: Discrete Resonator GH: Discrete Resonator | DEPENDENT A-Z | |

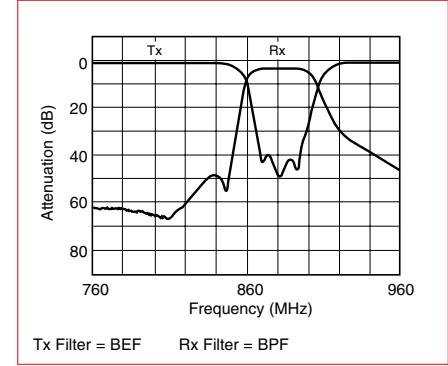
STANDARD DUPLXER E-AMPS & TDMA – DFY2R836CR881BHD



DIMENSIONS: mm



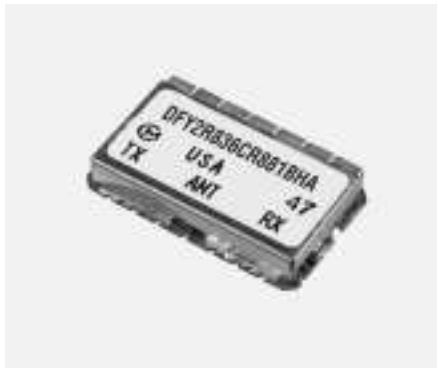
TRANSMISSION CHARACTERISTICS



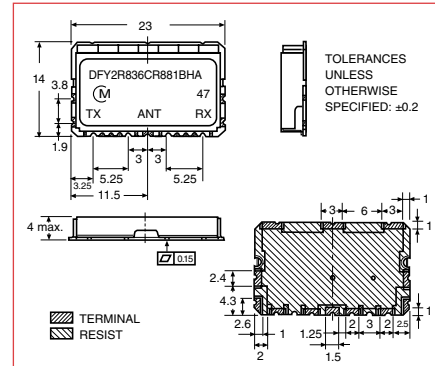
SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) | |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|-----------------------|-----|
| TDMA | DFY2R836CR881BHD | Tx | 836.5 (Fr) | $F_t \pm 12.5$ | 2.4 | 1.6 | 1.7 | 36 ($F_r \pm 12.5$) | 2.0 |
| | | Rx | 881.5 (Fr) | $F_r \pm 12.5$ | 4.0 | 1.3 | 1.8 | 45 ($F_t \pm 12.5$) | 1.0 |

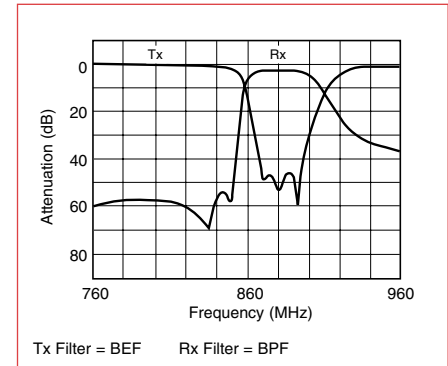
STANDARD DUPLXER E-AMPS & TDMA – DFY2R836CR881BHA



DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS

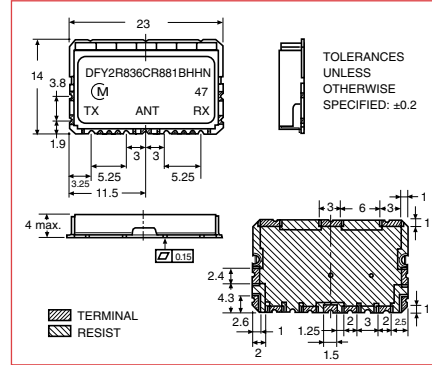


SPECIFICATIONS

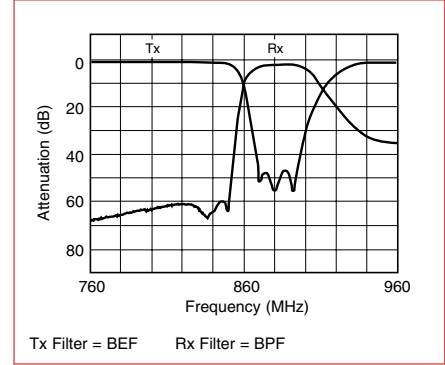
| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) | |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|-----------------------|-----|
| TDMA | DFY2R836CR881BHA | Tx | 836.5 (Fr) | $F_t \pm 12.5$ | 2.6 (+10 ~ +35°C) | 1.9 | 1.7 | 43 ($F_r \pm 12.5$) | 2.0 |
| | | | | | 2.8 (-30 ~ +85°C) | | | | |
| | | Rx | 881.5 (Fr) | $F_r \pm 12.5$ | 3.7 | 1.3 | 1.8 | 50 ($F_t \pm 12.5$) | 1.0 |

STANDARD DUPLEXER E-AMPS & CDMA – DFY2R836CR881BHHN

DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS

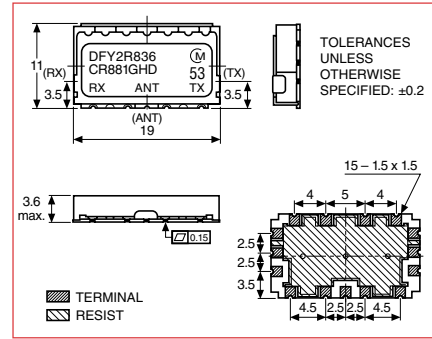


SPECIFICATIONS

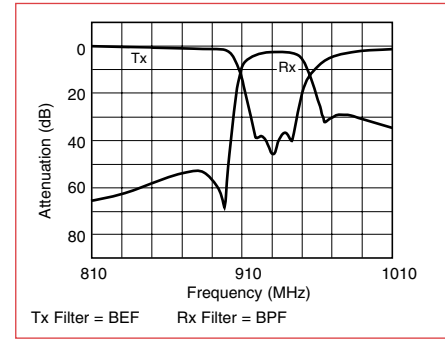
| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|-------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|
| CDMA | DFY2R836CR881BHHN | Tx 836.5 (Ft) | Ft ± 12.5 | 2.6 | 1.8 | 1.7 | 43 (Fr ± 12.5) | 2.0 |
| | | Rx 881.5 (Fr) | Fr ± 12.5 | 4.0 | 1.6 | 1.8 | 56 (Ft ± 12.5) | 1.0 |

STANDARD DUPLEXER E-AMPS & TDMA DFY2R836CR881GHD

DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS

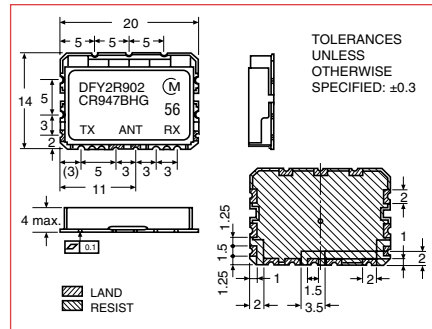


SPECIFICATIONS

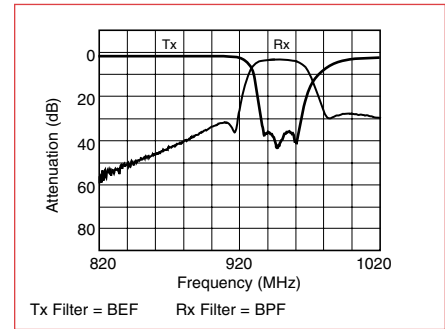
| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|
| TDMA | DFY2R836CR881GHD | Tx 836.5 (Ft) | Ft ± 12.5 | 2.4 | 1.7 | 1.7 | 36 (Fr ± 12.5) | 2.0 |
| | | Rx 881.5 (Fr) | Fr ± 12.5 | 4.3 | 1.7 | 1.8 | 50 (Ft ± 12.5) | 1.0 |

STANDARD DUPLEXER GSM DFY2R902CR947BHG

DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|
| GSM | DFY2R902CR947BHG | Tx 902.5 (Ft) | Ft ± 12.5 | 1.6 (25°C) | 1.2 | 1.7 | 30 (Fr ± 12.5) | 4.0 |
| | | | | 1.8 (-35 ~ +85°C) | | | | |
| | | Rx 947.5 (Fr) | Fr ± 12.5 | 3.0 (25°C) | 1.3 | 2.0 | 27 (Ft ± 12.5) | — |
| | | | | 3.2 (-30 ~ +85°C) | | | | |

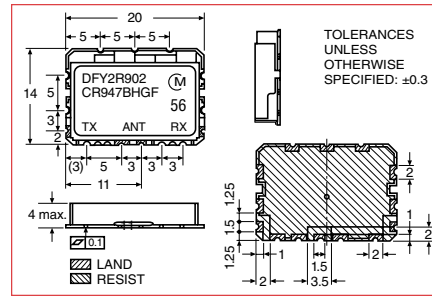
CERAMIC MICROWAVE FILTERS DUPLXERS—DP TYPE

DFY Series

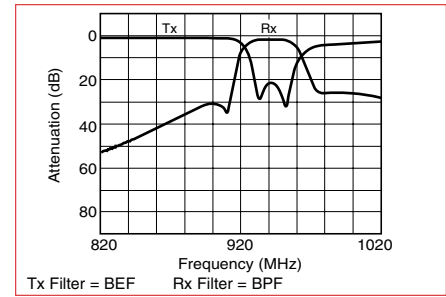
STANDARD DUPLEXER GSM DFY2R902CR947BHGF



DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



SPECIFICATIONS

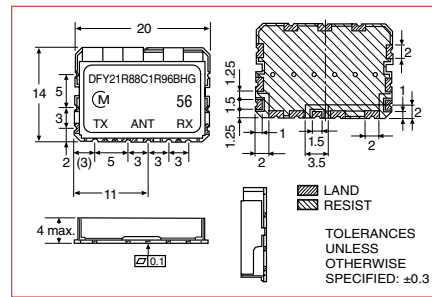
| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|-------------------|------------------------|----------------------|--------------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------|
| GSM | DFY2R902CR947BHGF | Tx | 902.5 (Ft) | Ft ± 12.5 | 1.0 (0 ~ +35°C) 1.2 (-30 ~ +85°C) | 0.9 | 15 (Fr ± 12.5) | *Peak 4.0 Average 0.5 |
| | | Rx | 947.5 (Fr) | Fr ± 12.5 | 3.0 (0 ~ +35°C) 3.2 (-30 ~ +85°C) | | | |

*Peak @ 4W (0.6 nsec., duty 12.5%)

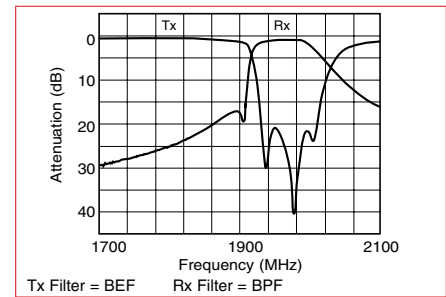
STANDARD DUPLEXER PCS—TDMA & DCS1900 DFY21R88C1R96BHG



DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



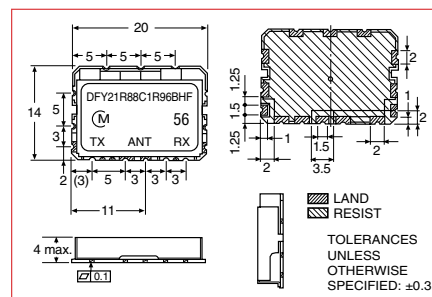
SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|------------------|------------------------|----------------------|--------------------------------|--------------------------------------|---------------------|-----------------------------|----------------------|
| PCS | DFY21R88C1R96BHG | Tx | 1880 (Ft) | Ft ± 30.0 | 2.0 (5 ~ +35°C) 2.3 (-30 ~ +85°C) | 1.7 | 20 (Fr ± 30) | 2.0 |
| | | Rx | 1960 (Fr) | Fr ± 30.0 | 3.2 | | | |

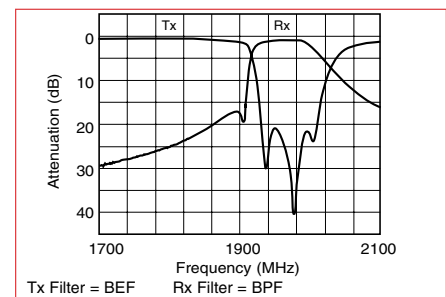
STANDARD DUPLEXER PCS—TDMA & DCS1900 DFY21R88C1R96BHF



DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|------------------|------------------------|----------------------|--------------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------|
| PCS | DFY21R88C1R96BHF | Tx | 1880 (Ft) | Ft ± 30.0 | 1.7 (0 ~ +35°C) 2.0 (-30 ~ +85°C) | 1.6 | 17 (Fr ± 30) | *Peak 4.0 Average 0.5 |
| | | Rx | 1960 (Fr) | Fr ± 30.0 | 3.0 | | | |

*Peak @ 4W (0.6 nsec., duty 12.5%)

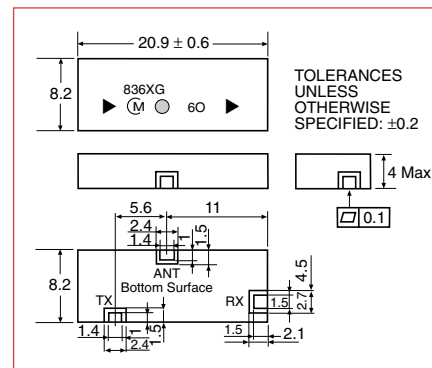
| Application | Part Number | Application | Part Number |
|-------------|------------------|-------------|------------------|
| LMR | DFY2R815CR860BHA | PDC800 | DFY2R820CR950KHB |
| EGSM | DFY2R897CR942BHB | PDC1500 | DFY1R44C1R48LHA |
| DCS1800 | DFY21R74C1R84BHE | KOREAN PCS | DFY21R76C1R85BHC |
| | DFY21R74C1R84BHF | MSAT | DFY21R54C1R64BTC |

FEATURES

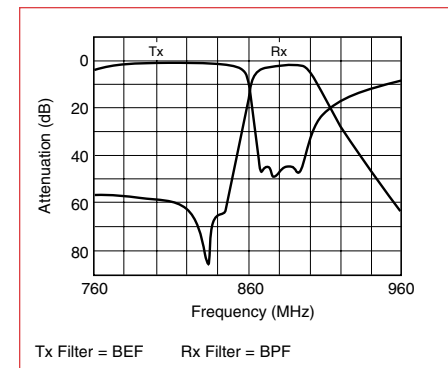
- Low insertion loss for using high Q value dielectric resonators.
- Small and light for using high dielectric constant ceramics.
- Excellent temperature stability for temperature compensated dielectric constant ($0 \pm 5\text{ppm}/(\text{degree C})$ max.)
- Excellent mechanical stability without vibratile structure.
- SMD and reflow soldering is available.
- Mountable by automatic placing machine.

STANDARD DUPLEXER E-AMPS & TDMA – DFYGR836CR881NHA

DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS

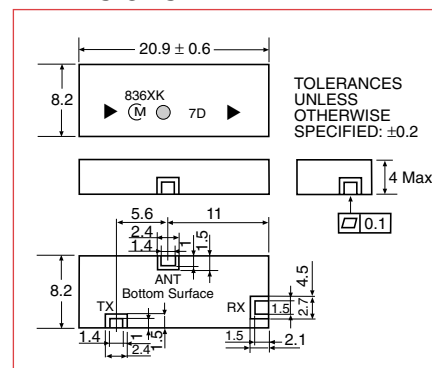


SPECIFICATIONS

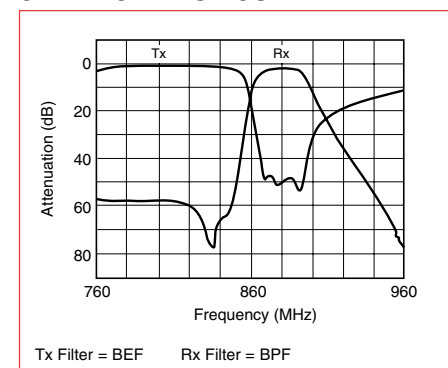
| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) | |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|-----|
| EAMPS | DFYGR836CR881NHA | Tx | 836.5 (Ft) | Ft \pm 12.5 | 2.4 (+5 ~ +35°C) | 1.75 | 42 (Fr \pm 12.5) | 2.0 | |
| | | | | | 2.6 (-30 ~ +85°C) | | | | |
| | | Rx | 881.5 (Fr) | Fr \pm 12.5 | 3.8 (+5 ~ +35°C) | 2.0 | 1.8 | 50 (Ft \pm 12.5) | 1.0 |
| | | | | | 4.1 (-30 ~ +85°C) | | | | |

STANDARD DUPLEXER CDMA & TDMA – DFYGR836CR881NHB

DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



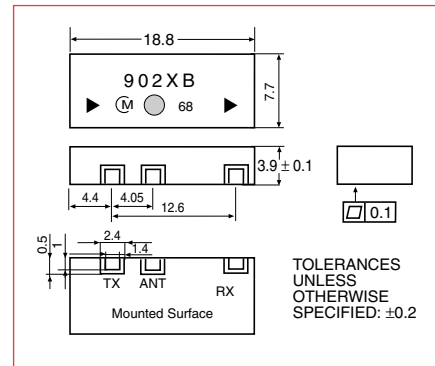
SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) | |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|-----|
| CDMA | DFYGR836CR881NHB | Tx | 836.5 (Ft) | Ft \pm 12.5 | 2.4 (+50 ~ +35°C) | 1.75 | 42 (Fr \pm 12.5) | 2.0 | |
| | | | | | 2.6 (-30 ~ +85°C) | | | | |
| | | Rx | 881.5 (Fr) | Fr \pm 12.5 | 4.2 (0 ~ +35°C) | 2.3 | 1.8 | 56 (Ft \pm 12.5) | 1.0 |
| | | | | | 4.5 (-30 ~ +85°C) | | | | |

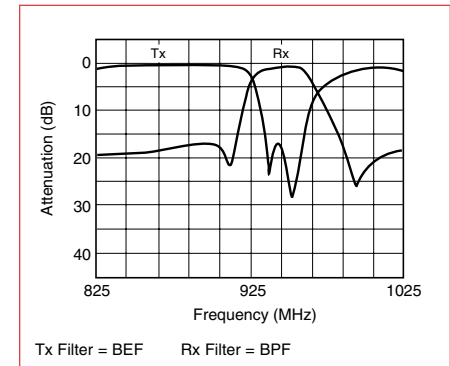
STANDARD DUPLEXER GSM DFYGR902CR947NHA



DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



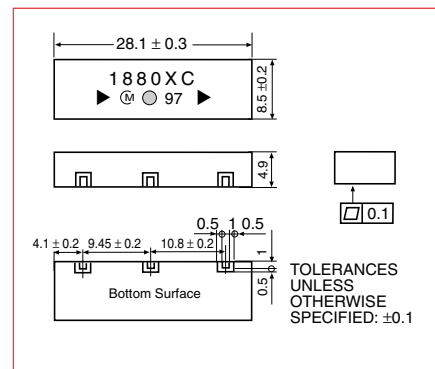
SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) | |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|---|
| GSM | DFYGR902CR947NHA | Tx | 902.5 (Fr) | Fr ± 12.5 | 1.1 (0 ~ +35°C) | 0.8 | 14 (Fr ± 12.5) | 4.0 (Peak) | |
| | | | | | 1.3 (-30 ~ +85°C) | | | 0.5 (Avg.) | |
| | | Rx | 947.5 (Fr) | Fr ± 12.5 | 3.2 (0 ~ +35°C) | 1.3 | 2.0 | 29 (Fr ± 12.5) | — |
| | | | | | 3.5 (-30 ~ +85°C) | | | | |

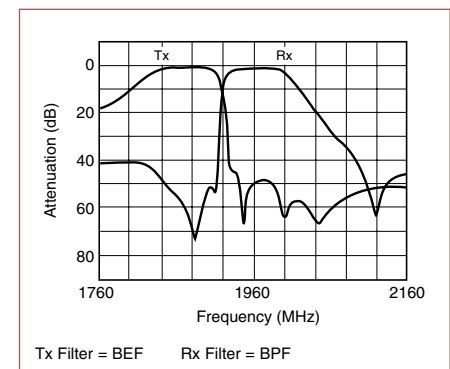
STANDARD DUPLEXER PCS DFYK1R88C1R96HHC



DIMENSIONS: mm



TRANSMISSION CHARACTERISTICS



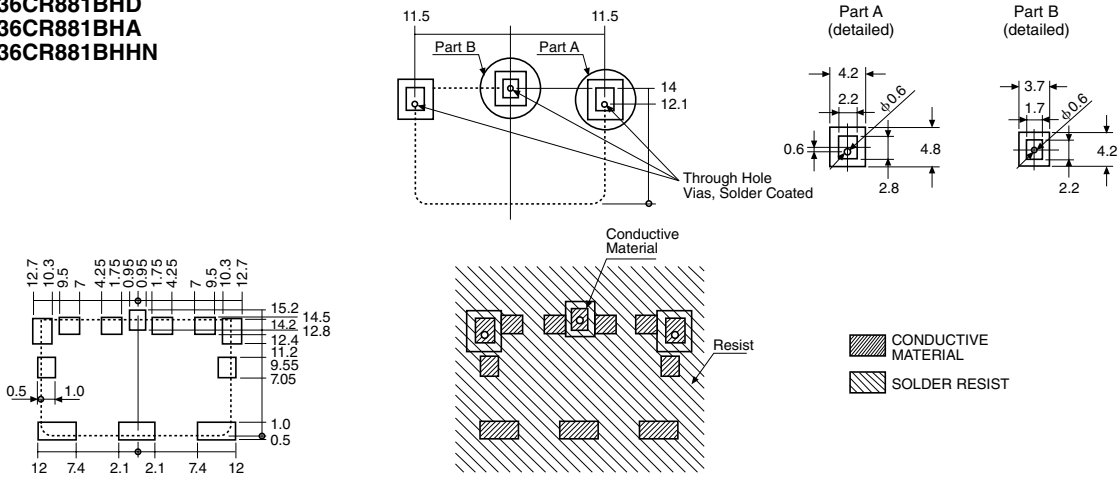
SPECIFICATIONS

| Application | Part Number | Center Frequency (MHz) | Bandwidth (BW) (MHz) | Insertion Loss in BW (dB) max. | Ripple in BW (dB) max. | V.S.W.R. in BW max. | Attenuation (dB) min. (MHz) | Max. Rated Power (W) |
|-------------|------------------|------------------------|----------------------|--------------------------------|------------------------|---------------------|-----------------------------|----------------------|
| PCS | DFYK1R88C1R96HHC | Tx | 1880.0 (Fr) | Fr ± 30.0 | 3.5 | 2.5 | 35 (Fr ± 12.5) | 2.0 |
| | | Rx | 1960.0 (Fr) | Fr ± 30.0 | 4.4 | 3.0 | 2.2 | 45 (Fr ± 12.5) |

CERAMIC MICROWAVE FILTERS STANDARD LAND PATTERNS—DUPLXERS

DP TYPE/E-AMPS/TDMA/CDMA

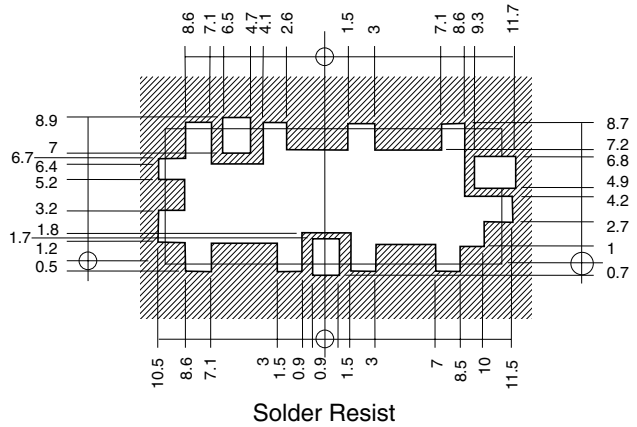
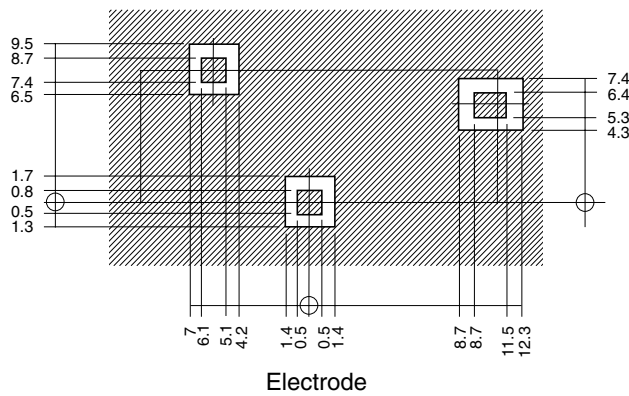
DFY2R836CR881BHD
DFY2R836CR881BHA
DFY2R836CR881BHNN



GB/KB TYPE

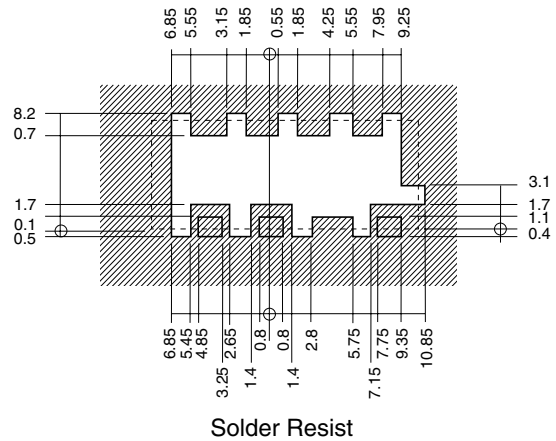
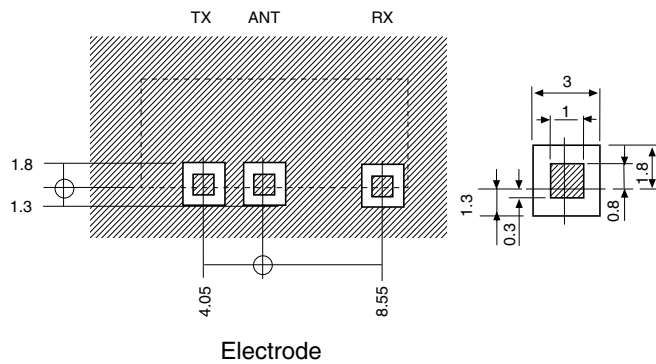
DIMENSIONS: mm

DFYGR836CR881NHA DFYGR836CR881NHB



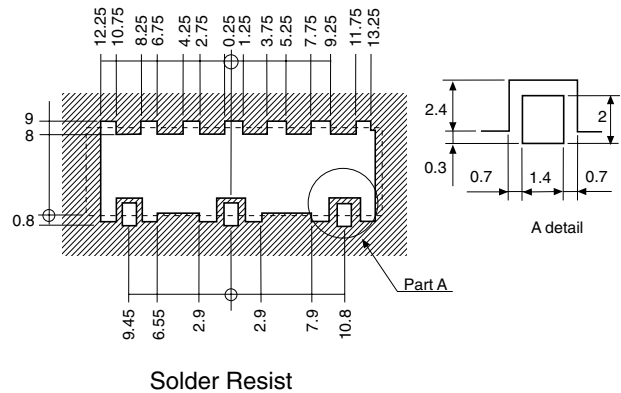
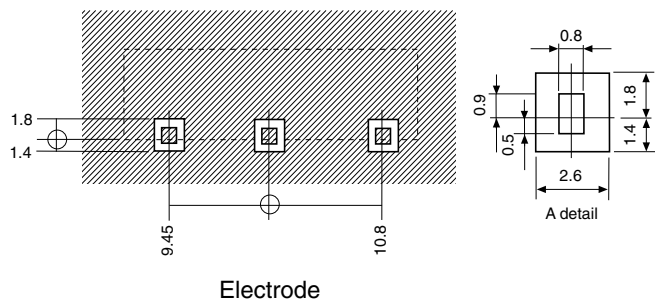
Note: Impedance of signal lines should be 50 ohms including land pattern. The standard condition is applying the glass epoxy board (t = 1.0mm, dielectric constant = 4.8, copper plating on both surfaces) and the land patterns are connected to 50 ohms micro-strip lines on back side surface through the via hole.

DFYGR902CR947NHA



Note: Impedance of signal lines should be 50 ohms including land pattern. The standard condition is applying the glass epoxy board (t = 1.0mm, dielectric constant = 4.8, copper plating on both surfaces) and the land patterns are connected to 50 ohms micro-strip lines on back side surface through the via hole.

DFYK1R88C1R96HHC



Note: Impedance of signal lines should be 50 ohms including land pattern. The standard condition is applying the glass epoxy board (t = 1.0mm, dielectric constant = 4.8, copper plating on both surfaces) and the land patterns are connected to 50 ohms micro-strip lines on back side surface through the via hole.