WERLATONE

Model QH11643

**PRODUCT DATA SHEET** **QH11643**

**Our patented 3 dB 90° Hybrid Couplers provide:**

- Superior component performance starting at 3:1 Bandwidth.
- Thicker center boards for high power and increased repeatability.
- Bonded structures which eliminate any air gaps between substrates.
- More sections per bandwidth for better coupling flatness.
- Electrically shorter and physically smaller RF components.

**Features:**

High Power  Wide Bandwidths  Small Size  Connectorized  Drop-In & Surface Mount

**Electrical Specifications:**

| | |
|---|---|
| Frequency: | 200 - 1000 MHz |
| Power: | 200 W CW |
| Insertion Loss | 0.4 dB Max. |
| VSWR: | 1.30:1 Max. |
| Phase Balance: | 90° ± 5° dB Max. |
| Amplitude Balance: | ± 0.7 dB Max. |
| Isolation: | 18 dB Min. |

**Mechanical Specifications:**

| | |
|---|---|
| Type: | Surface Mount |
| Plating Options: | QH11643-Pb: Electrodeposited Tin/Lead<br>QH11643-Sn: Immersion Tin (RoHS Compliant)<br>QH11643-Ag: Immersion Silver (RoHS Compliant) |
| Size: | 2.8 x 0.75 x 0.16'' |

**Port Configurations:**

| J1 | J2 | J3 | J4 |
|---|---|---|---|
| Input | 3 dB, 0° | 3 dB, -90° | Isolated |
| 3 dB, 0° | Input | Isolated | 3 dB, -90° |
| 3 dB, -90° | Isolated | Input | 3 dB, 0° |
| Isolated | 3 dB, 90° | 3 dB, 0° | Input |

**Werlatone's** breakthrough technology allows us to build our existing line of Broadband 3 dB High Power 90° Hybrid Couplers. Connectorized 3 dB 90° Hybrid Coupler models are available with a choice of connectors. Several of our existing High Power 3 dB 90° RF Couplers are three port designs, wherein the difference port is internally terminated with a high power termination. This eliminates the need for a customer supplied external load for each Hybrid Coupler.



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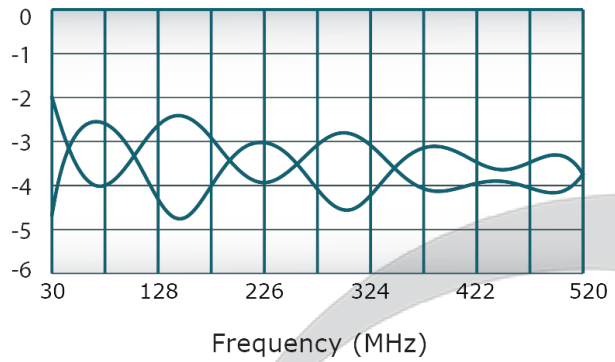
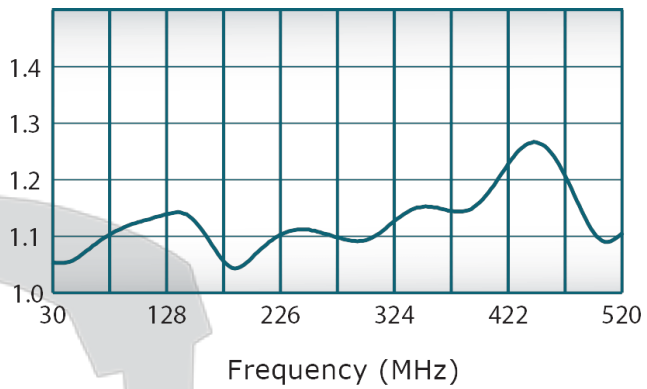
## Performance Data (Specifications subject to change without notice):

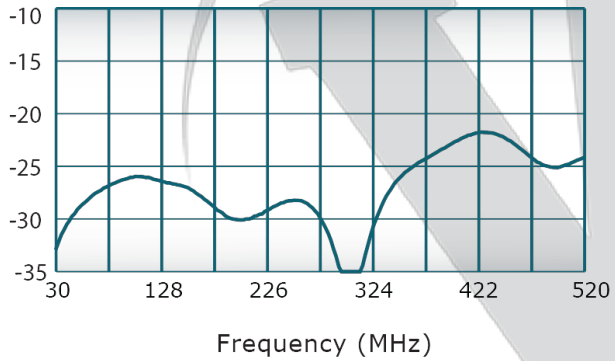
Coupling:



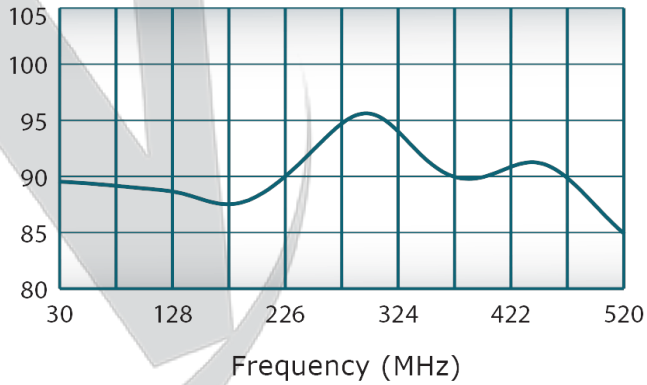

VSWR:




Isolation:




Phase Balance:





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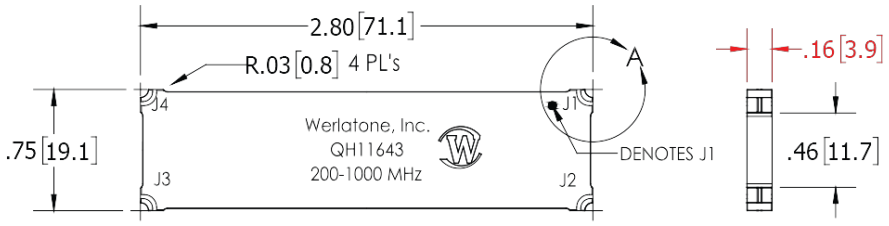
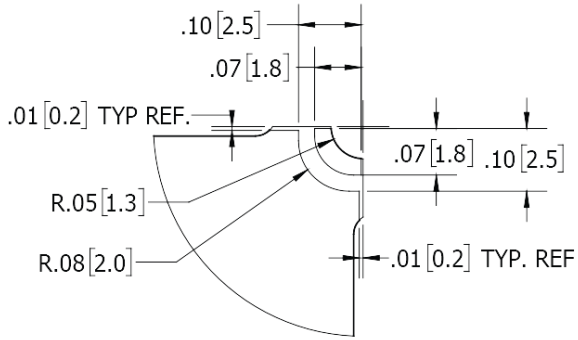
| REVISION HISTORY | | | |
|---|---|---|---|
| REV. | DESCRIPTION | DATE | APPROVED |
| - | INITIAL RELEASE | 3/9/2018 | BW |
| A | ECN 9543 | 3/30/2018 | BW |




DETAIL A
SCALE 4 : 1

| FINISH | |
|---|---|
| P/N | TYPE |
| QH11643-Ag | RoHS Imm. Silver |
| QH11643-Au | RoHS Nickel Gold |
| QH11643-Pb | ED Tin/Lead |
| QH11643-Sn | RoHS Imm. Tin |

**NOTES: UNLESS OTHERWISE SPECIFIED**
1. SEE SMT APPLICATION NOTE FOR FURTHER INFORMATION

| PORT CONFIGURATIONS | | | |
|---|---|---|---|
| J1 | J2 | J3 | J4 |
| Input | 3 dB, 0° | 3 dB, -90° | Isolated |
| 3 dB, 0° | Input | Isolated | 3 dB, -90° |
| 3 dB, -90° | Isolated | Input | 3 dB, 0° |
| Isolated | 3 dB, -90° | 3 dB, 0° | Input |

| | |
|---|---|
| | |
| | |
| | |
| | |
| | QH11643 |
| NEXT ASSY | USED ON |
| APPLICATION | |

UNLESS OTHERWISE SPECIFIED
- INTERPRET DRAWING IAW MIL-STD-100
- DIMENSIONING PER ASME Y14.5M-2009
- PARENTHETICAL INFO FOR REF ONLY
- DIMENSIONS ARE IN INCHES
- DIMENSIONAL LIMITS APPLY BEFORE PROCESSES
- TOLERANCES:
  ANGLES ± 2°
  3 PL ± .005
  2 PL ± .015
- REMOVE BURRS AND SHARP EDGES R.01 MAX
- CONCENTRICITY MACHINED DIA: .002 FIM
- MACHINE TOOL MISMATCH .003 MAX

THIRD ANGLE PROJECTION

| | | |
|---|---|---|
| DWN | GP | DATE 3/9/2018 |
| CHK | PR | DATE 3/9/2018 |
| ENGR | GP | DATE 3/9/2018 |
| MFGR | | DATE |
| QA | | DATE |
| RLSE | | DATE |

WERLATONE SINCE 1965
17 Jon Barrett Rd
Patterson, NY 12563

TITLE
OUTLINE, QH11643 90° HYBRID COUPLER, 200-1000 MHz, 200 W

| SIZE | CAGE CODE | DWG NO | REV |
|---|---|---|---|
| A | 28812 | 21596-500 | A |

SCALE 1:1 SHEET 1 OF 1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