

### FEATURES

- High Power
- Low Profile Surface Mount Package
- Very Low Insertion Loss
- Excellent Amplitude and Phase Balance
- High Isolation
- RoHS
- Tape and Reel for High Volume Production
- 100% RF Tested

### APPLICATIONS

- Power Amplifiers
- Signal Distribution Networks
- Antenna Feeds
- Switch Networks
- High Power Combiners/Splitters
- Phase Shifters

### GENERAL DESCRIPTION

The HPM3F is a high performance 3dB hybrid coupler in a surface mount package. This low profile coupler handles up to 80watts of CW power. The HPM3F is designed for those demanding applications where low loss, excellent amplitude and phase balance are required.

The HPM3F is manufactured with materials that have thermal expansion characteristics compatible with industry standard board materials like RO3003, RO4350, FR4 and others. The couplers are available in a RoHS compliant finish and packaged in both reel and tube.

### ELECTRICAL SPECIFICATIONS\*

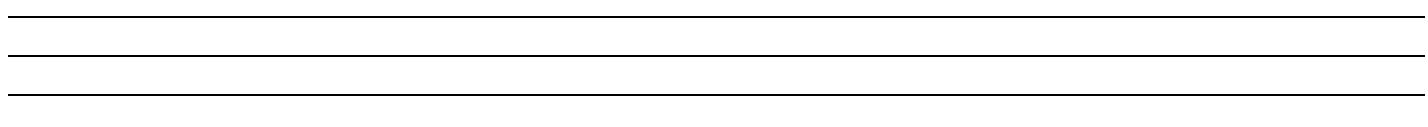
| Frequency<br>MHz | Isolation<br>dB (min) | Insertion<br>Loss<br>dB (max) | VSWR | Amplitude<br>Balance<br>dB (max) | Phase Error<br>° | Power<br>Handling **<br>Watts CW | Operating<br>Temperature<br>°C |
|------------------|-----------------------|-------------------------------|------|----------------------------------|------------------|----------------------------------|--------------------------------|
| 2200 - 2400      | 20                    | 0.2                           | 1.2  | ± 0.3                            | 90 ± 3.0         | 80                               | -55 to +125                    |

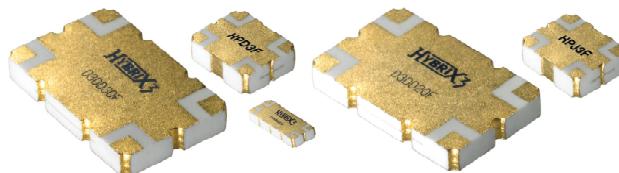
#### Specification Notes:

\* Measured on Florida RF Labs test fixture. Specifications are subject to change without notice.

\*\* Power rating is specified at 95°C base temperature

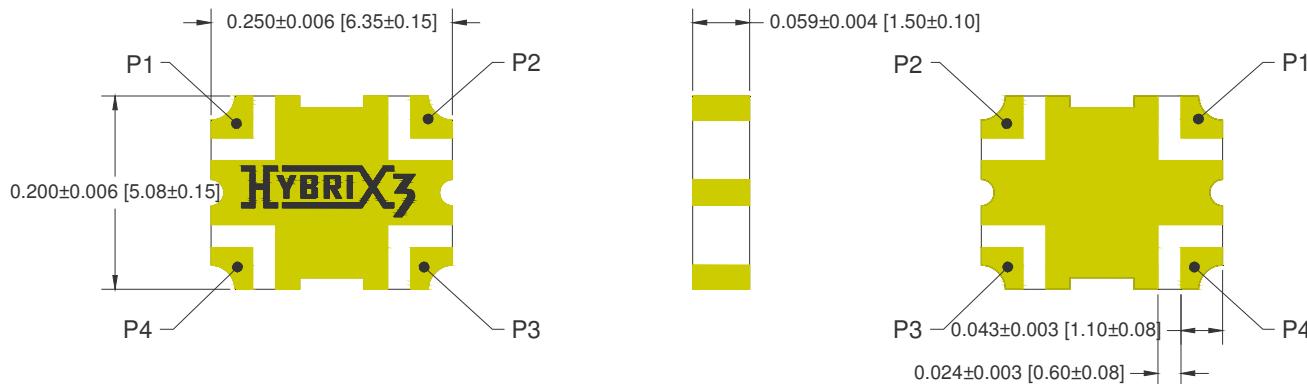
### TYPICAL RF PERFORMANCE AT 25°C





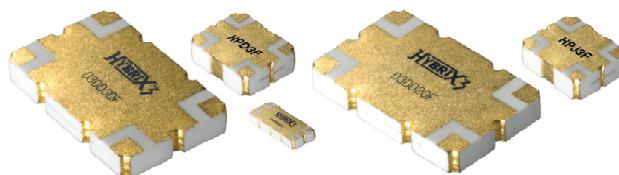
### COUPLER PIN CONFIGURATION AND MECHANICAL OUTLINE

| POR TS | P1   | P2   | P3   | P4   |
|--------|------|------|------|------|
| P1     | -    | ISO  | -90° | 0°   |
| P2     | ISO  | -    | 0°   | -90° |
| P3     | -90° | 0°   | -    | ISO  |
| P4     | 0°   | -90° | ISO  | -    |



### COMMONLY USED ATTACHMENT MATERIALS

| Material         | Composition                         | Thermal Conductivity (Watts/cm°/C) | Melting Temperature (°C) |
|------------------|-------------------------------------|------------------------------------|--------------------------|
| Gold-Tin Solder  | 80% Gold / 20% Tin                  | 0.58                               | 280                      |
| Lead-Free Solder | 99.3% Tin – 0.7% Copper             | N/A                                | 227                      |
| Lead-Free Solder | 96.5% Tin / 3.5% Silver             | 0.33                               | 221                      |
| Lead-Free Solder | 96.5% Tin / 3% Silver / 0.5% Copper | N/A                                | 217 - 220                |
| Sn63 Solder      | 63% Tin / 37% Lead                  | 0.49                               | 183                      |
| Conductive Epoxy | Silver Filled                       | 0.01 to 0.29                       | N/A                      |



## SOLDERING PROFILE

