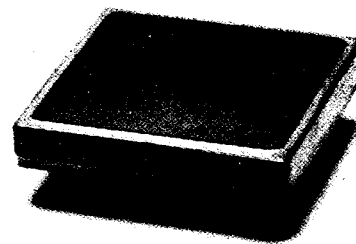
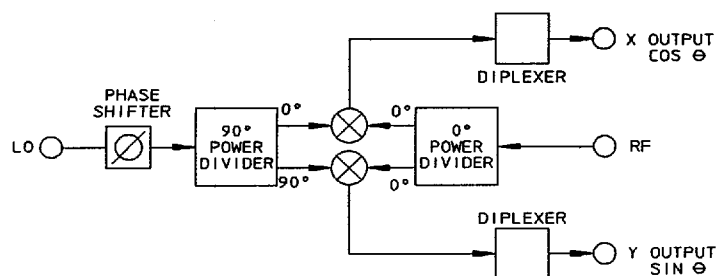




PCP-3S series

0° to 360° PHASE COMPARATORS
High Accuracy, Meri-Pac



- Catalog and Custom 10 to 500 MHz
- High Signal Isolation
- Low Profile, High Reliability PC Package

Model Number	Center Frequency, f_0	Usable Bandwidth, MHz
PCP-3S-70	70 MHz	66.5 - 73.5
PCP-3S-***B	10 - 500 MHz	$f_0 \pm 5\%$

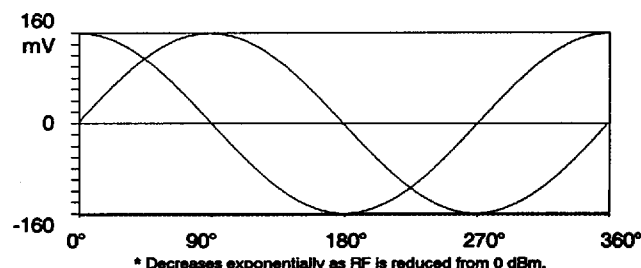
For complete Model Number replace *** with desired Center Frequency, f_0 in MHz.

MERRIMAC Phase Comparators provide two output voltages which together permit unambiguous phase comparisons to be made over the entire 0° to 360° phase shift range. One output is proportional to the *sine* of the phase difference between the reference (LO) and the unknown (RF) input signals; the other output is proportional to the *cosine*.

Basically, each phase comparator is an integrated assembly consisting of a power divider, two balanced mixers and a 90° quadrature hybrid. Two diplexers are also included which attenuate the second harmonic ($2f_0$) at the outputs.

Custom designs with more tightly specified accuracies or other characteristics may be ordered for specific applications.

Output Voltage Characteristics*



COMMON SPECIFICATIONS

RF Characteristics

Phase Difference Range:	0 - 360°
VSWR (RF/LO):	2.0:1 max.
LO Input Power (Ref.):	+10 $\pm$ 1 dBm
RF Input Power (Unknown):	+2 dBm max.
Rise Time/Fall Time:	100 ns typ.
Impedance (Unknown and Ref.):	50 Ω nom.

Video Output Characteristics

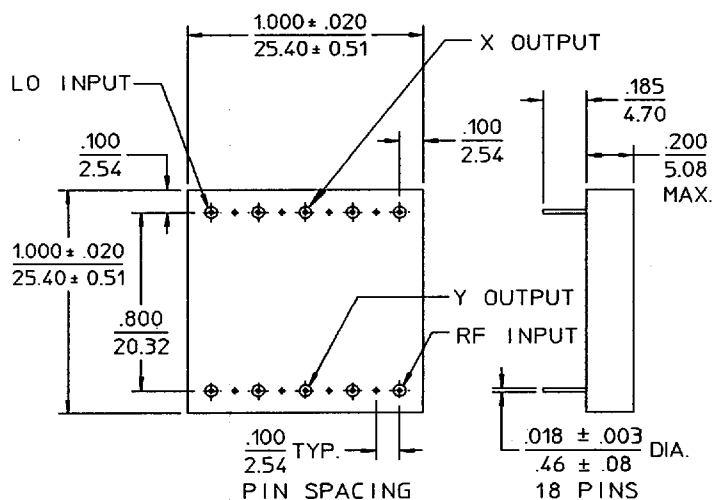
"X" Output:	K Cos θ
"Y" Output:	K Sin θ
Peak Amplitude (RF = 0 dBm):	150 mV min. (into 150 Ω)
Bandwidth:	DC - 10% of RF
Impedance (X and Y):	150 Ω nom.
Signal Leakage (Isolation):	30 dB typ.

Output Accuracy

Amplitude Balance:	$\pm$ 5 mV max.
Zero Crossing (In-Phase Inputs):	$\pm$ 2° @ f_0
Phase Error, Arc tan θ :	$\pm$ 5° @ f_0
Weight, nominal:	0.32 oz (9 g)
Operating Temperature:	-55 to +85°C

Contact MERRIMAC for further details. (11/91)

S-Meri-Pac™



NOTES: 1. Tolerance on 3 place decimals $\pm .010$ (.25) except as noted.
2. Dimensions in inches over millimeters.
3. All unmarked pins are case ground.

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