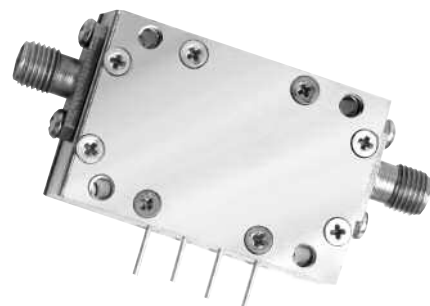


# .65 TO 1.75 GHz TTL BIPHASE MODULATOR

## MODEL: BMT65175HC10MD (Modulation Driven)

### FEATURES

- RF frequency range..... .65 to 1.75 GHz  
(usable from .5 to 2 GHz)
- Biphase accuracy.....  $\pm 1^\circ$
- Amplitude accuracy .....  $\pm 0.1$  dB
- Rise time ..... 10 ns
- Switching speed..... 30 ns
- RF input..... +13 dBm (P1 dB)

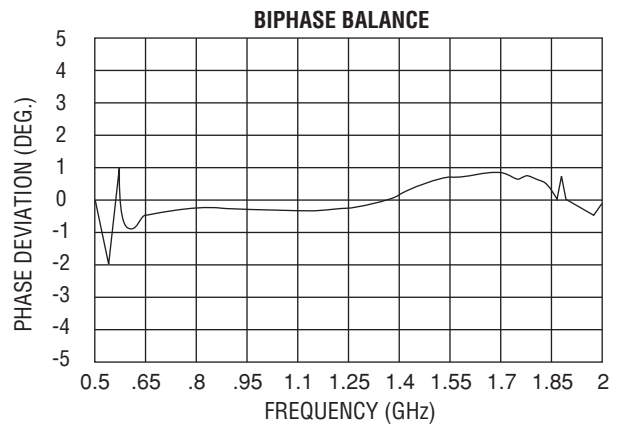
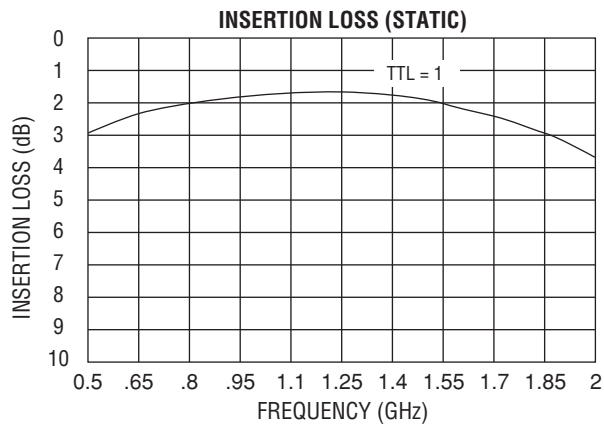
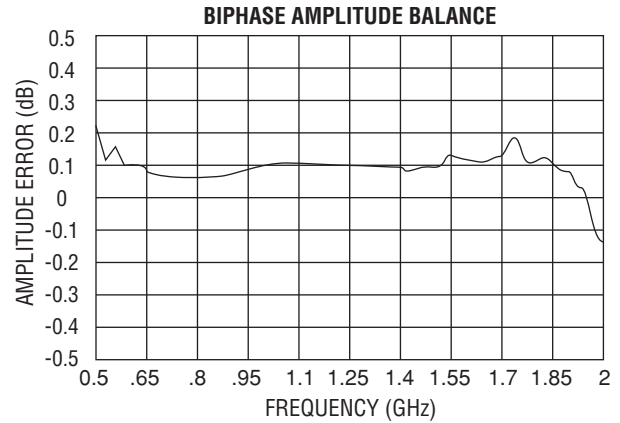
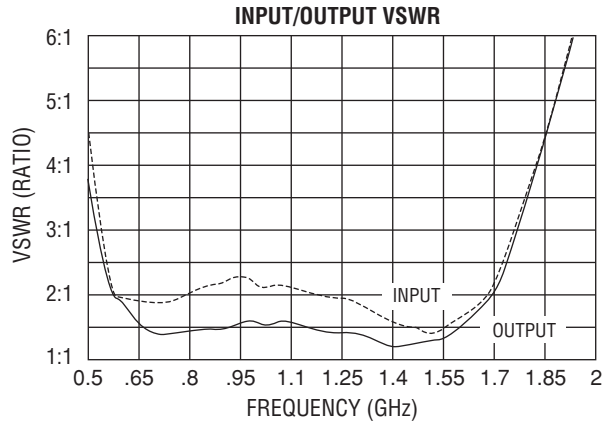


MITEQ's Model BMT65175HC10MD TTL-controlled biphase modulator is ideal for BPSK modulation over broad frequency ranges with extremely high input carrier levels (up to +16 dBm). The power handling capability is suited to simulator systems using high-level VCOs avoiding the requirement of an additional external amplifier. Since this is a TTL or modulation driven unit, the RF input-to-output power relation is linear up to the compression level.

### ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF carrier frequency range		GHz	.65		1.75
RF carrier VSWR		Ratio		2:1	
RF carrier power (linear)	Operating Nonoperating	dBm dBm	Noise	+13	+23
TTL modulation rate		MBs	DC		30
DC power supply	$\pm 5$ VDC	mA			30
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Insertion loss		dB		4	6
Carrier suppression		dBc	20	25	
Switching speed	50% TTL to 90% RF	ns		30	
Switching rise/fall time	10 to 90% RF	ns		10	
Phase balance (0 or 180°)		Degrees		$\pm 1$	$\pm 3$
Amplitude balance (0 or 180°)		dB		0.1	0.3
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
Modulated RF frequency range		GHz	.65		1.75
Modulated RF VSWR		Ratio		2:1	
Video leakage	From .65 to 1.75 GHz	dBm		-65	

# BMT65175HC10MD MODULATION DRIVEN TYPICAL TEST DATA

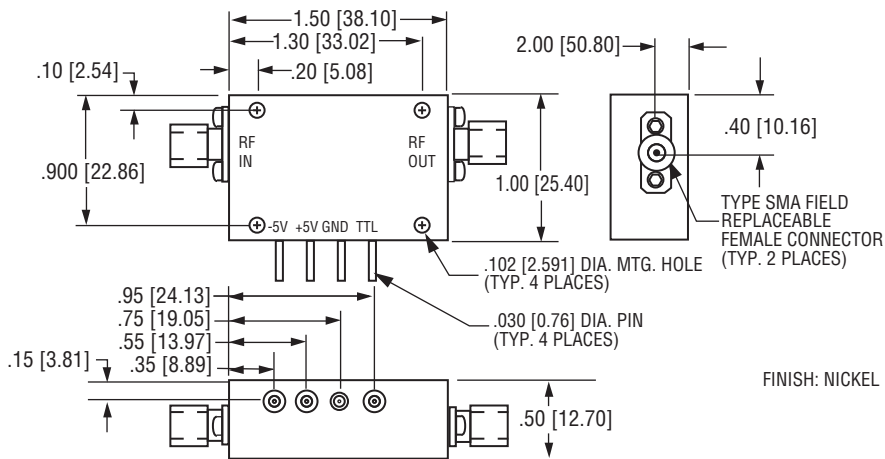


## MAXIMUM RATINGS

Specification temperature..... +25°C  
 Operating temperature ..... -54 to +85°C  
 Storage temperature ..... -65 to +95°C

NOTE: Test data supplied at 25°C; insertion loss and biphas accuracy.

## OUTLINE DRAWING



NOTE: All dimensions shown in brackets [ ] are in millimeters.