

# DTF-A SERIES – DOUBLE BALANCED MIXER

## TECHNICAL FEATURE

### FEATURES

- 1 to 3500 MHz
- +10 to +15 dBm LO
- Hi-Rel Hermetic Package

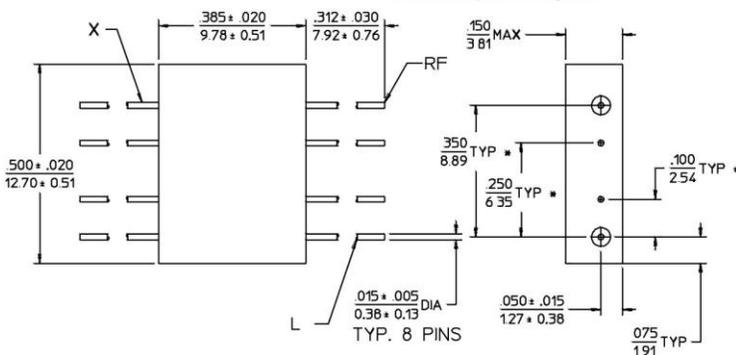
### PRINCIPAL SPECIFICATIONS

Model Number	RF/LO Frequency, MHz	LO Drive, Nom.	Operating Range, MHz	Conversion Loss, dB		Port Isolation, Min.			1 dB Compr. Point	Input Intercept Point	1 dB Desens. Level
				Max.	Typ.	L-R dB	L-X dB	R-X dB			
DTF-2A-1250	1 - 3500	+10 dBm	10 - 200	7.5	6.5	30	30	30	+7 dBm	+14 dBm	+5 dBm
			200 - 2500	8.5	7.0	25	25	23			
			1 - 3500	9.5	8.0	25	25	20			
DTF-4A-1250	1 - 3500	+15 dBm	10 - 200	7.5	6.5	35	30	30	+13 dBm	+20 dBm	+11 dBm
			200 - 2500	8.5	7.0	30	25	25			
			1 - 3500	9.5	8.0	28	25	20			

All specifications are as measured in a 50Ω system, at nominal LO power in a down converter application

### Package Outline

- NOTES: 1. Tolerance on 3 place decimals ±010(.25) except as noted.  
2. Dimensions in inches over millimeters.  
3. Dimensions marked with \* apply only at body.  
4. All unmarked pins are case ground.



### GENERAL SPECIFICATIONS

- IF Frequency Range: 1 - 1000 MHz
- Impedance: 50 Ω nom.
- Third Order Intermodulation Ratio Degradation: 3 dB typ. for IF VSWR of 3.0:1
- Useful LO Drive Range: ± 3 dB of nominal
- SSB Noise Figure: Within ±1 dB of Conversion Loss
- Weight, nominal: 0.15 oz (4.2 g)
- Operating Temperature: -55° to +85°C

### General Notes:

1. The DTF-A series Termination Insensitive Mixers cover the frequency range of 1 to 3500 MHz using transmission line hybrid junction techniques to isolate the diode rings from termination mismatch-induced reflections. This means the intermodulation ratio is independent of the IF port load impedance, so this unit is ideal for applications where a high performance mixer must drive a reactive load (e.g., filter) at the IF port. The DTF-A series and related models are available in PC, SMD and connectorized packages.
2. Merrimac offers a broad selection of Double Balanced Mixers ideal for a variety of signal processing functions with frequencies ranging from 20 kHz to 20 GHz and for applications from routine to very special.
3. Merrimac mixers comply with MIL-M-28837 and may be supplied screened for compliance with additional specifications for military and space specifications requiring the highest reliability.

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