



# STM351-2

## RF POWER MODULE WIRELESS LOCAL LOOP APPLICATIONS

PRELIMINARY DATA

- LINEAR POWER AMPLIFIER
- 325-351 MHz
- 20 VOLTS
- INPUT/OUTPUT 50 OHMS
- $P_{OUT} = 1.0 W_{AVG}$  (2.0 W PEP)
- GAIN = 21 dB

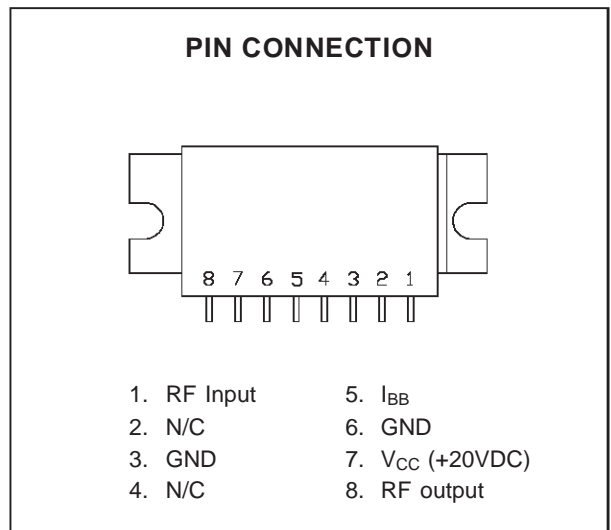
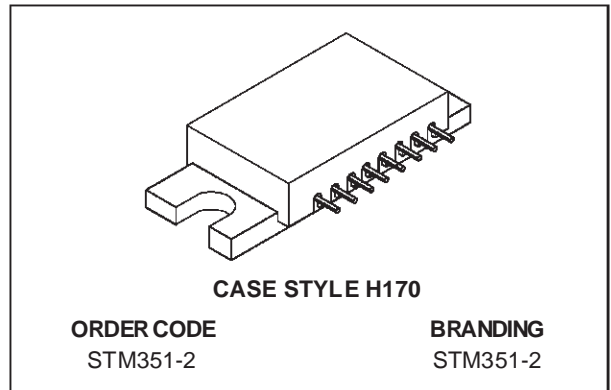
### DESCRIPTION

The STM351-2 module is designed to be used as a linear RF Power Amplifier for WLL or other fixed radio access subscriber applications. This particular model is one of several in design covering the 300-500 MHz frequency range in individual bandwidths of 25 MHz each.

Band splits and corresponding part numbers for all bands are as follows:

STM326-2	300-326 MHz	
STM351-2	325-351 MHz	PROTOTYPES
STM376-2	350-376 MHz	AVAILABLE

STM401-2	375-401 MHz
STM426-2	400-426 MHz
STM451-2	425-451 MHz
STM476-2	450-476 MHz
STM500-2	475-500 MHz



### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$ )

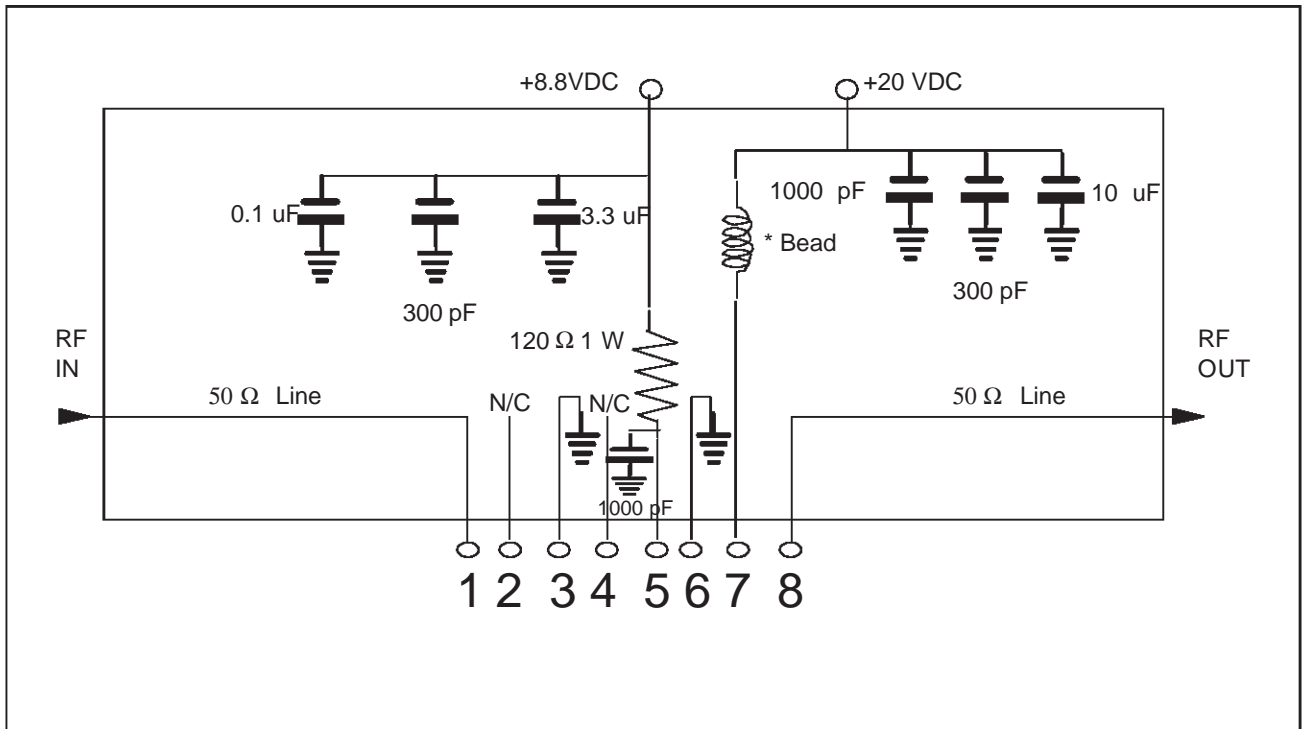
Symbol	Parameter	Value	Unit
$V_{CC}$	DC Supply Voltage	+21	Vdc
$I_{CC(q)}$	Quiescent Current (pin 7)	200	mAdc
$I_{CC}$	Operating Current (pin 7)	500	mAdc
$P_{IN}$	RF Input Power	30	mW
$P_{OUT}$	RF Output Power	2.0	$W_{AVG}$
$T_{STG}$	Storage Temperature	-30 to +100	$^{\circ}C$
$T_c$	Operating Case Temperature	- 20 to +60	$^{\circ}C$

**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 30°C, V<sub>CC</sub> = 20.0Vdc, V<sub>BB</sub> = 8.8 Vdc)**

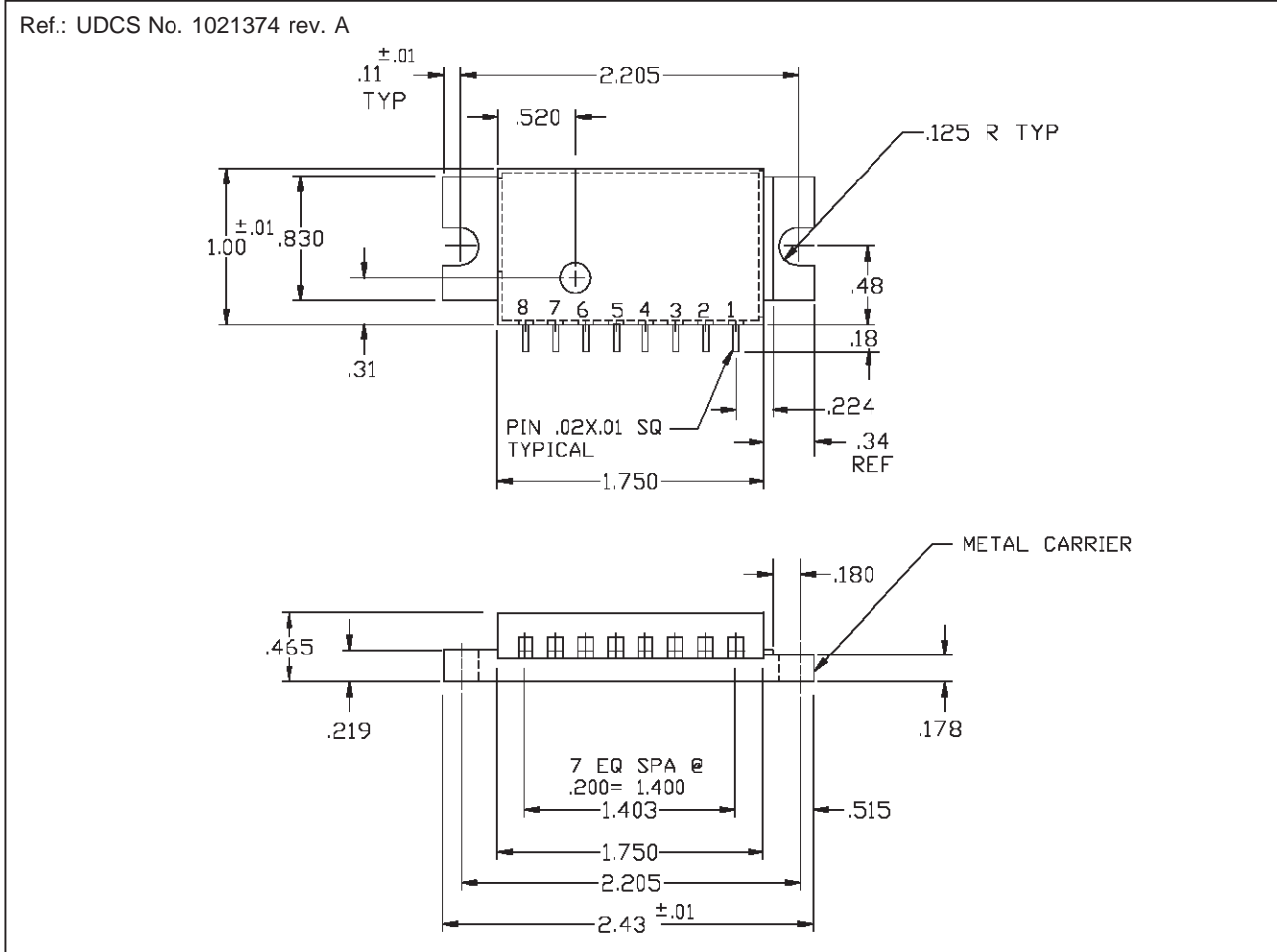
Symbol	Parameter	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
BW	Frequency Range		325	—	351	MHz
G <sub>P</sub>	Power Gain	P <sub>OUT</sub> = 1.0 W*	21	23	25	dB
η	Efficiency	P <sub>OUT</sub> = 1.0 W*	11	12.5	—	%
—	Input VSWR	P <sub>OUT</sub> = 1.0 W*      Z <sub>S</sub> , Z <sub>L</sub> = 50Ω	—	—	1.5:1	VSWR
I <sub>CC(q)</sub>	Quiescent Current	P <sub>IN</sub> = 0 W	110	120	130	mA
I <sub>CC</sub>	Collector Supply Current	P <sub>OUT</sub> = 1.0 W*	—	375	425	mA
I <sub>BB</sub>	Bias Current	P <sub>OUT</sub> = 1.0 W*	—	65	—	mA
H	Harmonics	P <sub>OUT</sub> = 1.0 W*      F = 325 MHz	—	-34	-30	dBc
IMD	Intermodulation Distortion	P <sub>OUT</sub> = 1.0 W*		-46	-40	dBc
—	Load Mismatch	Load VSWR = ∞:1 (All phase angles) P <sub>OUT</sub> = 1.0 W*	No Degradation in Output Power after Load Restoration			
—	Stability	Load VSWR = 5:1 (All phase angles) P <sub>OUT</sub> = 1.0 W*	All Spurious outputs more than 50dB below carrier			

\* 2 Tone Test, 50 KHz spacing: P<sub>OUT</sub> = 1.0 W<sub>AVG</sub> (2.0 W<sub>PEP</sub>)

**MODULE DC AND TEST FIXTURE CONFIGURATION**



## PACKAGE MECHANICAL DATA



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