



NTE341

Silicon NPN Transistor

RF Power Output

Description:

The NTE341 is a epitaxial silicon NPN transistor designed primarily for VHF mobile communications. The chip of this transistor is mounted so as to isolate the collector lead and ground the emitter lead for high gain performance.

Features:

- 175MHz
- 12.5 Volts
- $P_{OUT} = 4W$ Minimum
- $G_P = 12dB$
- Grounded Emitter

Absolute Maximum Ratings: ($T_C = +25^{\circ}C$ unless otherwise specified)

Collector–Base Voltage, V_{CBO}	36V
Collector–Emitter Voltage, V_{CEO}	18V
Collector–Emitter Voltage, V_{CES}	36V
Emitter–Base Voltage, V_{EBO}	4V
Collector Current, I_C	640mA
Total Device Dissipation, P_{tot}	8W
Operating Junction Temperature, T_j	+200°C
Storage Temperatures Range, T_{stg}	–65° to +200°C
Thermal Resistance, Junction–to–Case, R_{thJC}	21.9°C/W

Electrical Characteristics: ($T_C = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	18	–	–	V
	$V_{(BR)CES}$	$I_C = 5mA, V_{BE} = 0$	36	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = 0, I_E = 1mA$	4	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 15V, I_E = 0$	–	–	250	μA
ON Characteristics						
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 50mA$	10	–	100	
Dynamic Characteristics						
Output Power	P_{OUT}	$V_{CE} = 12.5V, f = 175MHz$	4	–	–	W
Common–Emitter Amplifier Power Gain	G_{PE}	$V_{CE} = 12.5V, f = 175MHz$	12	–	–	dB
Output Capacitance	C_{ob}	$V_{CE} = 15V, f = 1MHz$	–	180	230	pF

Electrical Characteristics (Cont'd): ($T_C = +25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Impedance Data							
Input Impedance	Z _{in}	P _{IN} = 200mW, V _{CC} = 12.6V	f = 136MHz	3.0 – j3.8			
			f = 155MHz	4.0 – j2.0			
			f = 175MHz	4.3 – j5.8			
Clamping Impedance	Z _{cl}		f = 136MHz	12.8 – j11			
			f = 155MHz	11 – j14.8			
			f = 175MHz	13 – j20			

