NTE
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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°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°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°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