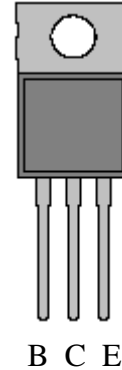


2SC1306  
Silicon NPN Transistor  
Final RF Power Output

**Description:**

The 2SC1306 is a silicon NPN transistor in a TO220 type case designed for use in high power output amplifier stages such as citizen band communications equipment.



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

Collector-Emitter Voltage ( $R_{BE} = 150 \text{ Ohm}$ ), $V_{CER}$	75V
Collector-Base Voltage, $V_{CBO}$	80V
Emitter-Base Voltage, $V_{EBO}$	5V
Collector Current, $I_C$	
Continuous	3A
Peak	5A
Collector Power Dissipation ( $T_A = +25^\circ\text{C}$ ), $P_D$	1.2W
Collector Power Dissipation ( $T_C = +50^\circ\text{C}$ ), $P_D$	10W
Operating Junction Temperature, $T_J$	+150°C
Storage Temperature Range, $T_{stg}$	-55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$ , $I_B = 0$	80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	$I_C = 1\text{mA}$ , $R_{BE} = 150 \text{ Ohm}$	75	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$ , $I_C = 0$	5	-	-	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 40\text{V}$ , $I_E = 0$	-	-	10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4\text{V}$ , $I_C = 0$	-	-	10	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 5\text{V}$ , $I_C = 0.5\text{A}$	25	-	200	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}$ , $I_B = 0.1\text{A}$	-	0.15	0.60	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}$ , $I_B = 0.1\text{A}$	-	0.9	1.2	V
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}$ , $I_C = 0.1\text{A}$	100	150	-	MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}$ , $f = 1\text{MHz}$	25	-	-	
Power Output	$P_O$	$V_{CC} = 12\text{V}$ , $P_{in} = 0.2\text{W}$ , $f = 27\text{MHz}$	4.0	-	-	W
Collector Efficiency			60	-	-	%