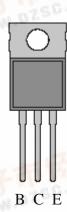
2SC1306 Silicon NPN Transistor Final RF Power Output

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

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

Electrical Characteristics: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit
Collector-Base Breakdown Voltage	V _{(BR)CBO}	$I_C = 100 \mu A, I_B = 0$	80	-	-	V
Collector-Emitter Breakdown Voltage	V _{(BR)CER}	$I_C = 1$ mA, $R_{BE} = 150$ Ohm	75	-	-	V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	$I_E = 100 \mu A, I_C = 0$	5	-	- 57	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 40V I_E = 0$	_=		10	μΑ
Emitter Cutoff Current	I _{EBO}	$V_{EB} = 4V$, $I_C = 0$	-	0:10	10	μΑ
DC Current Gain	h _{FE}	$V_{CE} = 5V, I_{C} = 0.5A$	25	-	200	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	$I_{\rm C} = 1$ A, $I_{\rm B} = 0.1$ A	-	0.15	0.60	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	$I_{\rm C} = 1$ A, $I_{\rm B} = 0.1$ A	-	0.9	1.2	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_{C} = 0.1A$	100	150	-	MHz
Output Capacitance	C _{ob}	$V_{CB} = 10V, f = 1MHz$	25	-	-	
Power Output	Po	$V_{CC} = 12V, P_{in} = 0.2W, f = 27MHz$	4.0	-	-	W
Collector Efficiency			60		_	%



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