

2SC1944

NPN EPITAXIAL PLANAR TYPE

DESCRIPTION

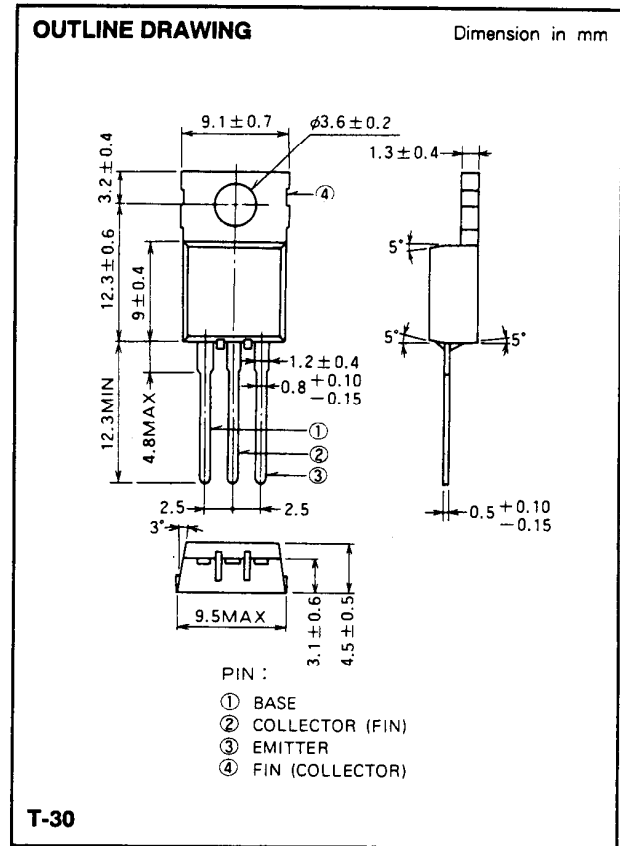
2SC1944 is a silicon NPN epitaxial planar type transistor designed for RF power amplifiers on HF bandmobile radio applications.

FEATURES

- High power gain : $G_{pe} \geq 11\text{dB}$, @ $V_{cc} = 12\text{V}$, $f = 27\text{MHz}$, $P_o = 13\text{W}$
- TO-220 package similarly is combinient for mounting.
- Emitter ballasted construction for good performances.
- Ability to withstanding infinite load VSWR when operated at $V_{cc} = 16\text{V}$, $P_o = 13\text{W}$, $f = 27\text{MHz}$

APPLICATIONS

10 to 14W output power class AB amplifiers in HF band.



ABSOLUTE MAXIMUM RATINGS (T_c = 25 °C unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V _{CB0}	Collector-base voltage		80	V
V _{EB0}	Emitter-base voltage		5	V
V _{CE0}	Collector-emitter voltage	R _{BE} = ∞	40	V
I _c	Collector current		6	A
P _c	Collector dissipation	T _a = 25 °C	1.5	W
		T _c = 25 °C	20	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		- 55 to 150	°C
R _{th-c}	Thermal resistance	Junction to ambient	83.3	°C/W
		Junction to case	6.25	°C/W

Note. Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS (T_c = 25 °C unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
V _{(BR)CBO}	Collector-base breakdown voltage	I _c = 1mA, I _E = 0	80		V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E = 5mA, I _c = 0	5		V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _c = 10mA, R _{BE} = ∞	40		V
I _{cBO}	Collector cutoff current	V _{CB} = 30V, I _E = 0		0.1	mA
I _{EBO}	Emitter cutoff current	V _{EB} = 4V, I _c = 0		0.1	mA
h _{FE}	DC forward current gain	V _{CE} = 10V, I _c = 0.1A	10	180	-
P _o	Output power	V _{cc} = 12V, f = 27MHz, P _{in} = 1W	13		W
η _c	Collector efficiency	V _{cc} = 12V, f = 27MHz, P _{in} = 1W	55		%

Note. Above parameters, ratings, limits and conditions are subject to change.