

DESCRIPTION

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

FEATURES

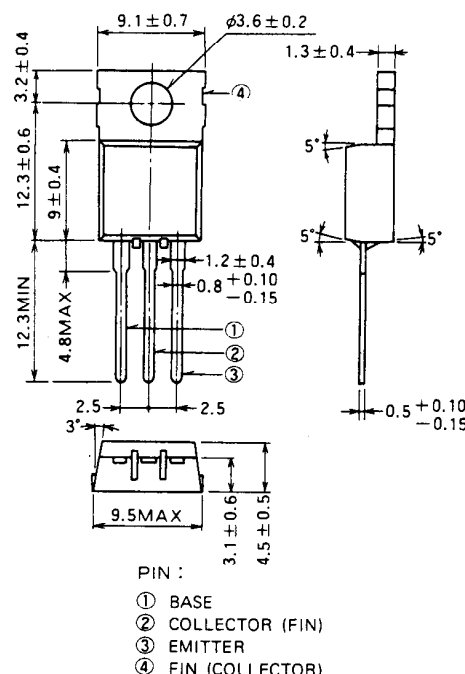
- High power gain : $G_{pe} \geq 11\text{dB}$, @ $V_{cc} = 12\text{V}$, $f = 27\text{MHz}$, $P_o = 13\text{W}$
- TO-220 package similarly is convenient for mounting.
- Emitter ballasted construction for good performances.
- Ability to withstanding infinite load VSWR when operated at $V_{cc} = 16\text{V}$,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

APPLICATIONS

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

OUTLINE DRAWING

Dimension in mm



T-30

ABSOLUTE MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{cbo}	Collector-base voltage		80	V
V_{ebo}	Emitter-base voltage		5	V
V_{ceo}	Collector-emitter voltage	$R_{BE} = \infty$	40	V
I_c	Collector current		6	A
P_c	Collector dissipation	$T_a = 25^\circ\text{C}$	1.5	W
		$T_c = 25^\circ\text{C}$	20	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		- 55 to 150	$^\circ\text{C}$
R_{th-c}	Thermal resistance	Junction to ambient	83.3	$^\circ\text{C/W}$
		Junction to case	6.25	$^\circ\text{C/W}$

Note. Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_c = 1\text{mA}$, $I_E = 0$	80		V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = 5\text{mA}$, $I_c = 0$	5		V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_c = 10\text{mA}$, $R_{BE} = \infty$	40		V
I_{cbo}	Collector cutoff current	$V_{CB} = 30\text{V}$, $I_E = 0$		0.1	mA
I_{ebo}	Emitter cutoff current	$V_{EB} = 4\text{V}$, $I_c = 0$		0.1	mA
h_{FE}	DC forward current gain	$V_{CE} = 10\text{V}$, $I_c = 0.1\text{A}$	10	180	-
P_o	Output power	$V_{cc} = 12\text{V}$, $f = 27\text{MHz}$, $P_{in} = 1\text{W}$	13		W
η_c	Collector efficiency		55		%

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