

DISCRIPTION

2SC3240 is a silicon NPN epitaxial planar type transistor specifically designed for high power amplifiers in HF band.

FEATURES

- High gain: $G_{pe} \geq 11.5\text{dB}$, $P_o \geq 100\text{W}$
@ $f = 30\text{MHz}$, $V_{CC} = 12.5\text{V}$, $P_{in} = 7\text{W}$
- High ruggedness: Ability to withstand 20:1 load VSWR when operated at $f = 30\text{MHz}$, $P_o = 100\text{W}$, $V_{CC} = 15.2\text{V}$.
- Emitter ballasted construction
- Low thermal resistance ceramic package with flange.

Input-output impedance

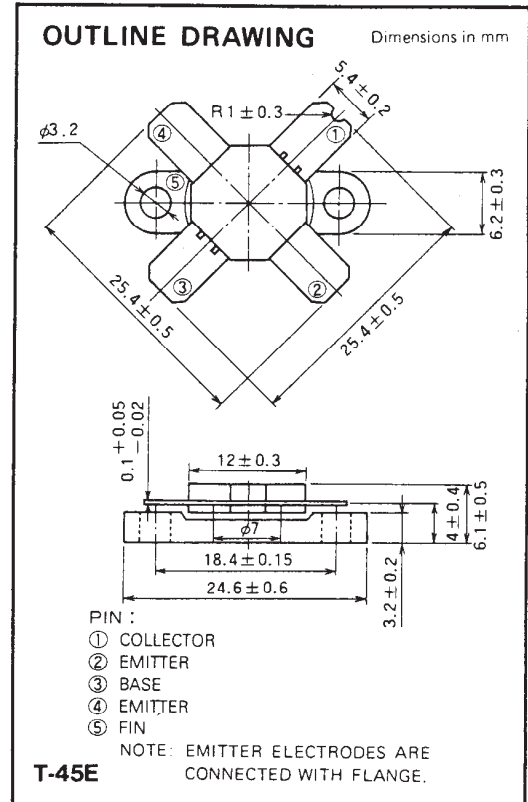
$$Z_{in} = 0.4 - j0.8 (\Omega)$$

$$Z_{out} = 1.0 - j1.1 (\Omega)$$

$$\text{@ } f = 30\text{MHz}, V_{CC} = 12.5\text{V}, P_o = 100\text{W}$$

APPLICATION

Output stage of transmitter in HF band SSB mobile radio sets.



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

Symbol	Parameter	Conditions	Ratings	Unit
V_{CBO}	Collector to base voltage		50	V
V_{EBO}	Emitter to base voltage		5	V
V_{CEO}	Collector to emitter voltage	$R_{BE} = \infty$	20	V
I_C	Collector current		25	A
P_C	Collector dissipation	$T_a = 25^\circ\text{C}$	8	W
		$T_C = 25^\circ\text{C}$	270	W
T_j	Junction temperature		175	$^\circ\text{C}$
T_{stg}	Storage temperature		-55 to 175	$^\circ\text{C}$
R_{th-a}	Thermal resistance	Junction to ambient	18.7	$^\circ\text{C/W}$
R_{th-c}		Junction to case	0.556	$^\circ\text{C/W}$

Note. Above parameters are guaranteed independently.

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

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)EBO}$	Emitter to base breakdown voltage	$I_E = 20\text{mA}$, $I_C = 0$	5			V
$V_{(BR)CBO}$	Collector to base breakdown voltage	$I_C = 20\text{mA}$, $I_E = 0$	50			V
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	$I_C = 100\text{mA}$, $R_{BE} = \infty$	20			V
I_{CBO}	Collector cutoff current	$V_{CB} = 15\text{V}$, $I_E = 0$			5	mA
I_{EBO}	Emitter cutoff current	$V_{EB} = 3\text{V}$, $I_C = 0$			5	mA
h_{FE}	DC forward current gain *	$V_{CE} = 10\text{V}$, $I_C = 1\text{A}$	10	50	180	—
P_o	Output power	$f = 30\text{MHz}$, $V_{CC} = 12.5\text{V}$, $P_{in} = 7\text{W}$	100	110		W
η_C	Collector efficiency		55	60		%

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