

DESCRIPTION

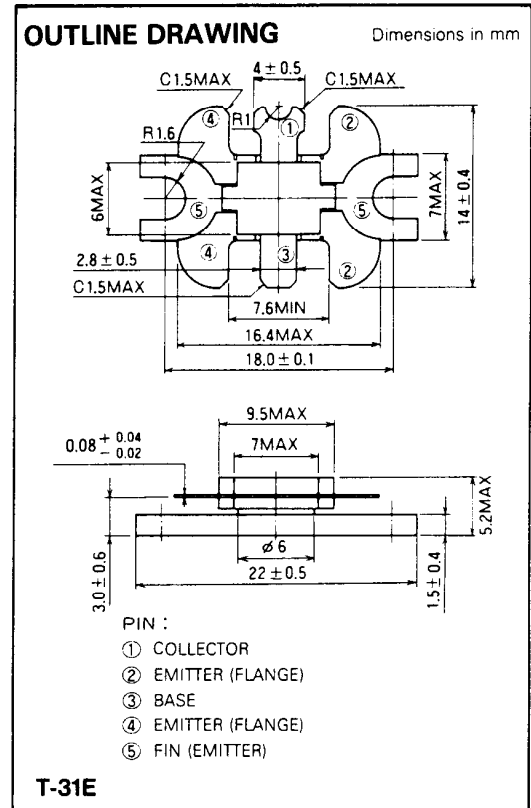
2SC3020 is a silicon NPN epitaxial planar type transistor designed for UHF power amplifier applications.

FEATURES

- High gain: $G_{pe} \geq 10\text{dB}$, @ $f = 520\text{MHz}$, $V_{CC} = 12.5\text{V}$, $P_{in} = 0.3\text{W}$.
- High ruggedness: Ability to withstand more than 20:1 load VSWR (all phase) when operated at $V_{CC} = 15.2\text{V}$, $f = 520\text{MHz}$, $P_O = 3\text{W}$.
- Emitter ballasted construction.
- Low thermal resistance: $R_{th} = 15 \text{ }^\circ\text{C/W}$ ($T_C = 25^\circ\text{C}$)
- Convenient flange type ceramic package.

APPLICATION

For drive stage and output stage of 400MHz band mobile radio.



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

Symbol	Parameter	Conditions	Ratings	Unit
V_{CBO}	Collector to base voltage		35	V
V_{EBO}	Emitter to base voltage		4.0	V
V_{CEO}	Collector to emitter voltage	$R_{BE} = \infty$	17	V
I_C	Collector current		1	A
P_C	Collector dissipation	$T_C = 25^\circ\text{C}$	10	W
T_j	Junction temperature		175	$^\circ\text{C}$
T_{stg}	Storage temperature		-55 to 175	$^\circ\text{C}$

Note. Above parameters are guaranteed independently.

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

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)EBO}$	Emitter to base breakdown voltage	$I_E = 1\text{mA}$, $I_C = 0$	4.0			V
$V_{(BR)CBO}$	Collector to base breakdown voltage	$I_C = 10\text{mA}$, $I_E = 0$	35			V
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	$I_C = 10\text{mA}$, $R_{BE} = \infty$	17			V
I_{CBO}	Collector cut off current	$V_{CB} = 15\text{V}$, $I_E = 0$			300	μA
I_{EBO}	Emitter cut off current	$V_{EB} = 3.0\text{V}$, $I_C = 0$			300	μA
h_{FE}	DC forward current gain *	$V_{CE} = 10\text{V}$, $I_C = 0.1\text{A}$	20	50	180	--
P_O	Power Output	$V_{CC} = 12.5\text{V}$, $P_{in} = 0.3\text{W}$, $f = 520\text{MHz}$	3.0	3.3		W
η_C	Collector efficiency		50	55		%

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