

### DESCRIPTION

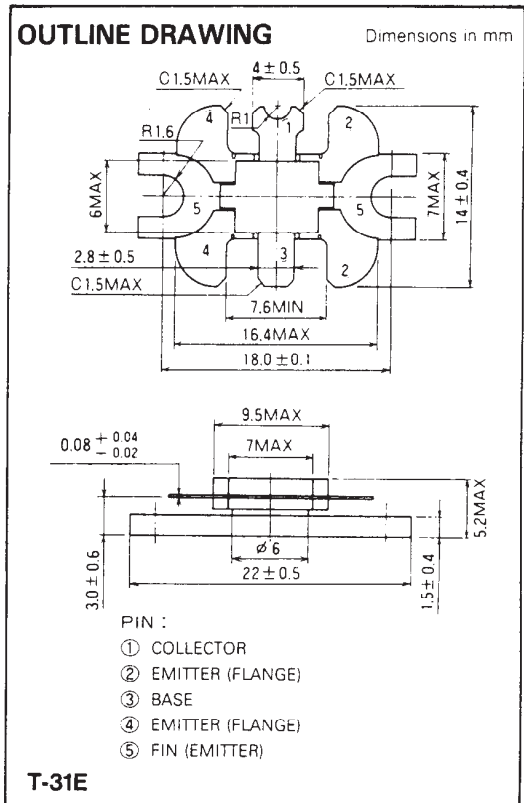
2SC3022 is a silicon NPN epitaxial planar type transistor specifically designed for UHF high power amplifier applications.

### FEATURES

- High Power Gain:  $G_{pe} \geq 4.7\text{dB}$   
@  $V_{CC} = 12.5\text{V}$ ,  $f = 520\text{MHz}$ ,  $P_{in} = 6\text{W}$ .
- Emitter ballasted construction.
- High ruggedness: Ability to withstand more than 20:1 load VSWR when operated at  $V_{CC} = 15.2\text{V}$ ,  $f = 520\text{MHz}$ ,  $P_O = 18\text{W}$ .
- Frange type ceramic package.
- $Z_{in} = 1.5 + j2.0\Omega$ ,  $Z_{out} = 2.8 + j1.0\Omega$ .  
@  $V_{CC} = 12.5\text{V}$ ,  $f = 520\text{MHz}$ ,  $P_O = 18\text{W}$ .

### APPLICATION

For output stage of 15W power amplifiers in UHF band.



### 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	V
$V_{CEO}$	Collector to emitter voltage	$R_{BE} = \infty$	17	V
$I_C$	Collector current		7	A
$P_C$	Collector dissipation	$T_C = 25^\circ\text{C}$	50	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	50	$^\circ\text{C/W}$
$R_{th-c}$		Junction to case	3	$^\circ\text{C/W}$

Note. Above parameters are guaranteed independently.

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

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BRI)EBO}$	Emitter to base breakdown voltage	$I_E = 10\text{mA}$ , $I_C = 0$	4			V
$V_{(BRI)CBO}$	Collector to base breakdown voltage	$I_C = 10\text{mA}$ , $I_E = 0$	35			V
$V_{(BRI)CEO}$	Collector to emitter breakdown voltage	$I_C = 0.1\text{A}$ , $R_{BE} = \infty$	17			V
$I_{CBO}$	Collector cut off current	$V_{CB} = 15\text{V}$ , $I_E = 0$			2.0	mA
$I_{EBO}$	Emitter cut off current	$V_{EB} = 3\text{V}$ , $I_C = 0$			3.0	mA
$h_{FE}$	DC forward current gain*	$V_{CE} = 10\text{V}$ , $I_C = 1\text{A}$	20	50	180	-
$P_O$	Power Output	$V_{CC} = 12.5\text{V}$ , $P_{in} = 6\text{W}$ , $f = 520\text{MHz}$	18	19		W
$\eta_C$	Collector efficiency		55	60		%

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