

RF POWER TRANSISTOR
2SC1324

NPN EPITAXIAL PLANAR TYPE

DESCRIPTION

2SC1324 is a silicon NPN epitaxial planar type transistor designed for industrial use RF broadband amplifiers from VHF to UHF band.

FEATURES

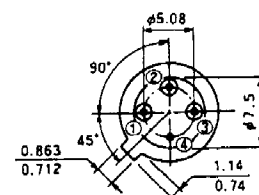
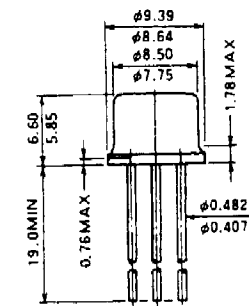
- High power gain: $G_{pe} \geq 9\text{dB}$
@ $V_{CC} = 15\text{V}$, $I_C = 30\text{mA}$, $f = 770\text{MHz}$
- TO-12 metal sealed package with case grounded pin for high reliability and good performances.
- All electrodes excepted ground pin are isolated from the case.

APPLICATION

Broadband amplifiers from VHF to UHF band.

OUTLINE DRAWING

Dimensions in mm



- PIN :
- ① EMITTER
 - ② BASE
 - ③ COLLECTOR
 - ④ CASE

T-8

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

Symbol	Parameter	Conditions	Ratings	Unit
V_{CB0}	Collector to base voltage		35	V
V_{EB0}	Emitter to base voltage		4	V
V_{CE0}	Collector to emitter voltage	$R_{BE} = \infty$	25	V
I_C	Collector current		150	mA
P_C	Collector dissipation	$T_a = 25^\circ\text{C}$	0.8	W
		$T_C = 25^\circ\text{C}$	3	W
T_j	Junction temperature		175	$^\circ\text{C}$
T_{stg}	Storage temperature		-65 to 175	$^\circ\text{C}$
R_{th-a}	Thermal resistance	Junction to ambient	187.5	$^\circ\text{C/W}$
R_{th-c}		Junction to case	50	$^\circ\text{C/W}$

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	$I_E = 1\text{mA}$, $I_C = 0$	4			V
$V_{(BR)CBO}$	Collector to base breakdown voltage	$I_C = 1\text{mA}$, $I_E = 0$	35			V
$V_{(BR)CEO}$	Collector to emitter breakdown voltage	$I_C = 10\text{mA}$, $R_{BE} = \infty$	25			V
I_{CBO}	Collector cutoff current	$V_{CB} = 25\text{V}$, $I_E = 0$			50	μA
I_{EBO}	Emitter cutoff current	$V_{EB} = 3\text{V}$, $I_C = 0$			75	μA
β_{FE}	DC forward current gain*	$V_{CE} = 15\text{V}$, $I_C = 30\text{mA}$	20	70	180	—
G_{pe}	Power gain	$V_{CC} = 15\text{V}$, $f = 770\text{MHz}$, $I_C = 30\text{mA}$	9	10		dB
f_T	Transition frequency	$V_{CE} = 15\text{V}$, $I_C = 30\text{mA}$		1.7		GHz
NF	Noise figure	$V_{CC} = 15\text{V}$, $I_C = 30\text{mA}$, $f = 500\text{MHz}$, $R_G = 50\Omega$		5		dB

Note *Pulse test, $P_W = 150\mu\text{s}$, duty = 5%.
Above parameters, ratings, limits and conditions are subject to change.

