

2SC2988

Silicon NPN Epitaxial Planar Type

RF Power Amplifier

■ Features

- Power output 1.8W on VHF band ($f=175\text{MHz}$)
- High gain 10dB

■ Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

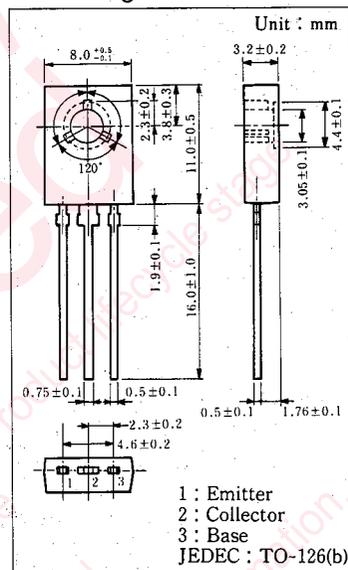
Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	36	V
Collector-emitter voltage	V_{CE0}	16	V
Emitter-base voltage	V_{EB0}	3	V
Peak collector current	I_{CP}	1	A
Collector current	I_C	0.5	A
Collector power dissipation ($T_c=25^\circ\text{C}$)	P_C	5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

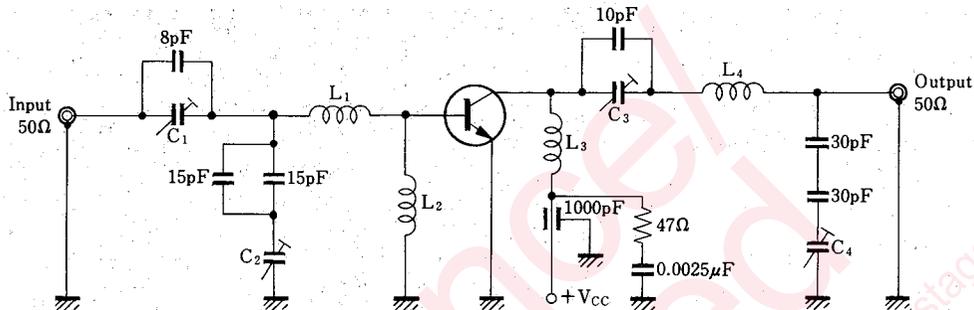
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CB0}	$V_{CB}=20\text{V}, I_E=0$			10	μA
Emitter cutoff current	h_{FE}	$V_{CE}=13.5\text{V}, I_C=200\text{mA}^*$	20	50		
Transition frequency	f_T	$V_{CB}=10\text{V}, I_E=-100\text{mA}^*, f=200\text{MHz}$	600	1000		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		6	10	pF
Overall efficiency characteristics	P_O	$V_{CC}=13.5\text{V}, P_{in}=0.2\text{W}, f=175\text{MHz}$	1.8	2.2		W
Output power	η_c	$V_{CC}=13.5\text{V}, P_{in}=0.2\text{W}, f=175\text{MHz}$		50		%

*パルス測定

■ Package Dimensions

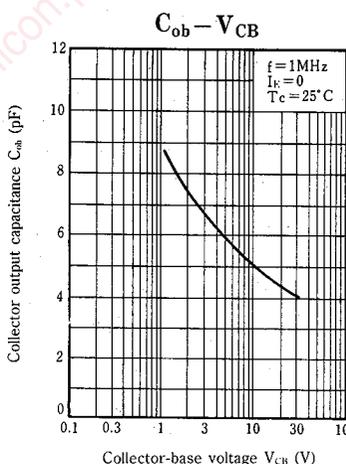
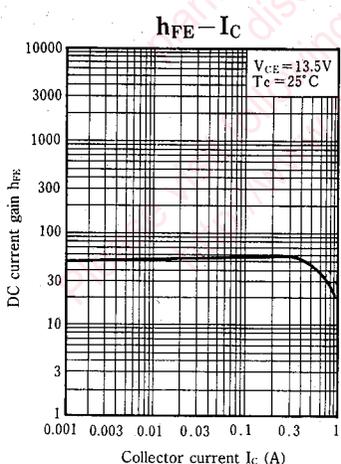
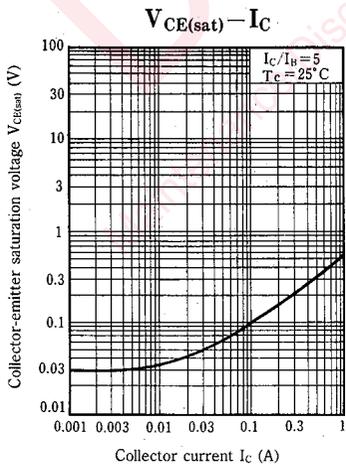
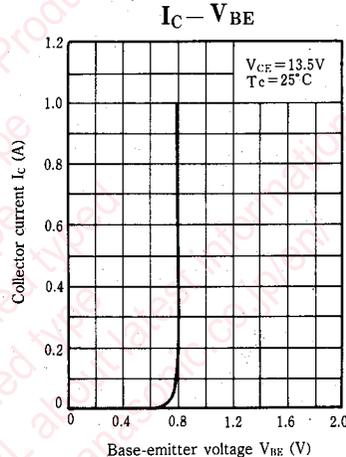
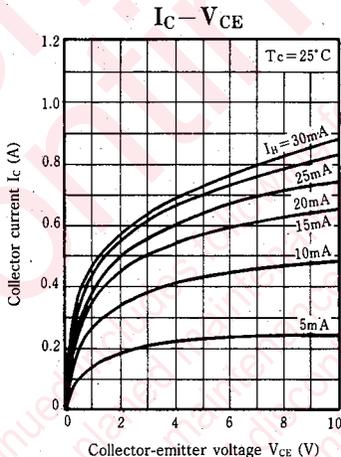
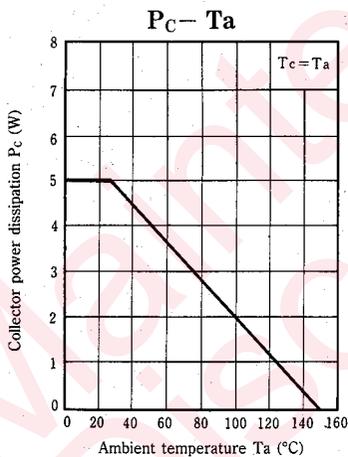


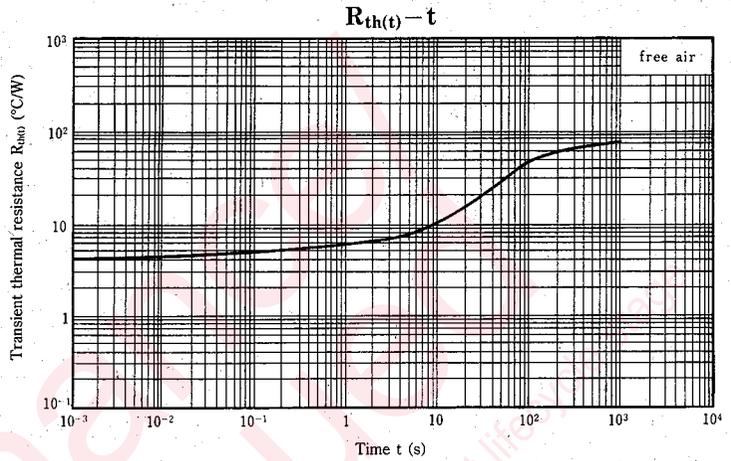
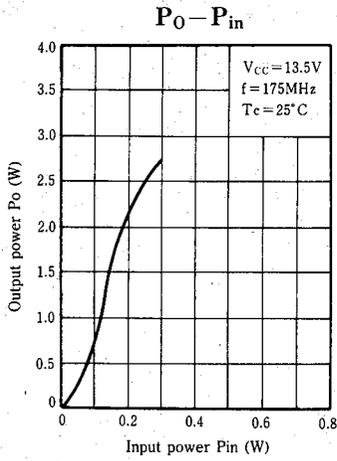
Measurement circuit for output power



Circuit Constant

- C₁ : 40pF
- C₂ : 30pF
- C₃ : 30pF
- C₄ : 30pF
- L₁ : Ag/Cu, 2mm φ, L=18mm
- L₂ : Ag/Cu, 1mm φ, 7.5t, ID=8mm
- L₃ : Ag/Cu, 1mm φ, 1.5t, ID=7.5mm
- L₄ : Ag/Cu, 1.5mm φ, 2t+10mm×2, ID=11mm, Pitch 5





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 maintenance type
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