

2SC4780

Silicon NPN Epitaxial Planar Type

For UHF band low-noise amplification

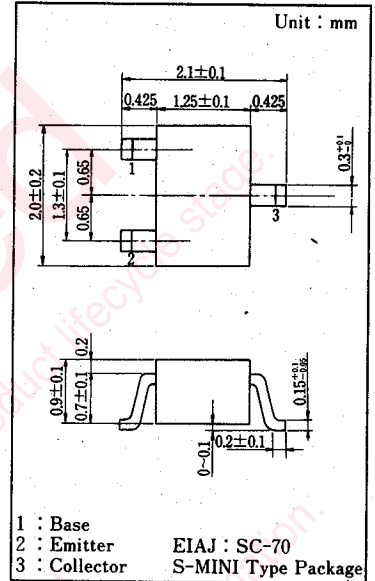
■ Features

- High power gain PG
- Low noise figure NF
- High gain bandwidth product f_T
- As it is an S-MINI type package, downsizing of equipment and automatic insertion by radial taping or magazine-style supply are possible.

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

Item	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	25	V
Collector-Emitter Voltage	V_{CE0}	12	V
Emitter-Base Voltage	V_{EB0}	2.5	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

■ Package Dimensions



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=15\text{V}, I_E=0$			100	nA
Emitter Cut off Current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0$			1	μA
DC Current Gain	h_{FE}^*	$V_{CE}=10\text{V}, I_C=15\text{mA}$	40		200	
Transition Frequency	f_T	$V_{CB}=10\text{V}, I_E=-15\text{mA}, f=800\text{MHz}$		4.5		GHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		0.75	1.5	pF
Forward Transfer Gain	$ S_{21e} ^2$	$V_{CE}=10\text{V}, I_C=15\text{mA}, f=800\text{MHz}$	8.5	10.5		dB
Power Gain	GUM	$V_{CE}=10\text{V}, I_C=15\text{mA}, f=800\text{MHz}$	10	12		dB
Noise Figure	NF	$V_{CE}=10\text{V}, I_C=5\text{mA}, f=800\text{MHz}$		1.8	3	dB

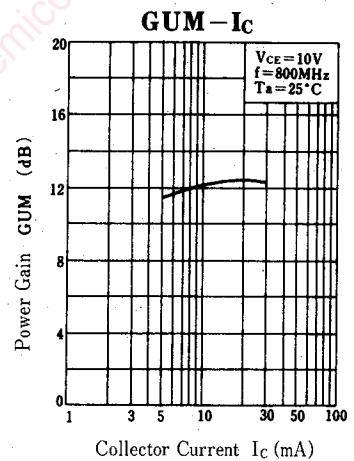
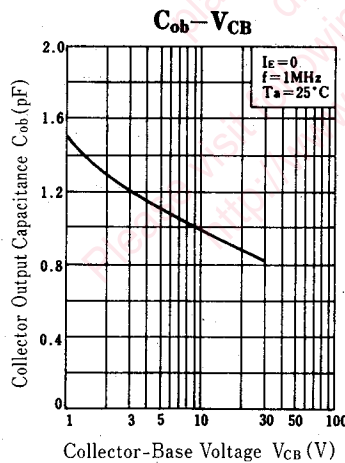
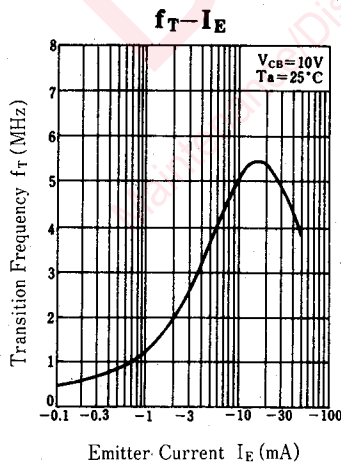
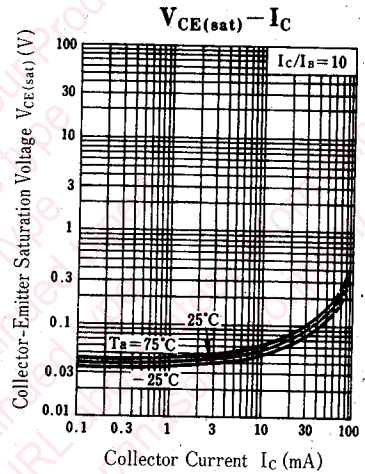
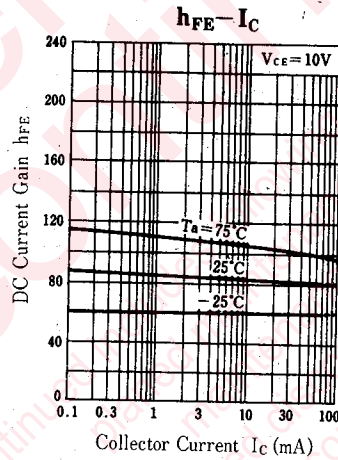
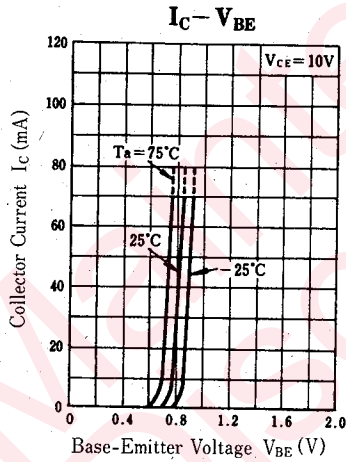
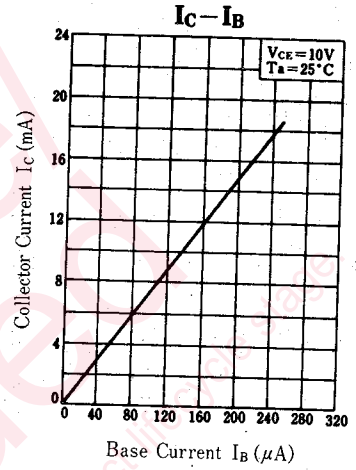
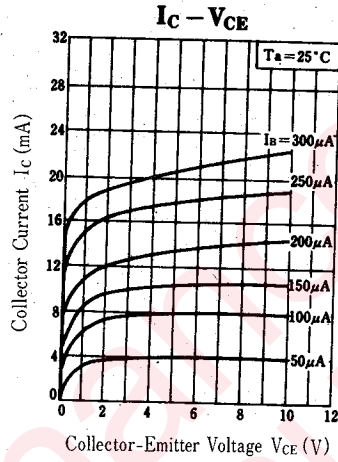
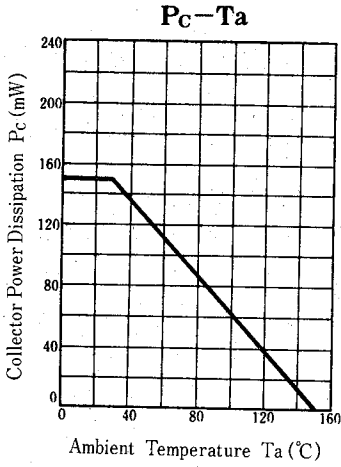
■ Type Name Marking (Example)

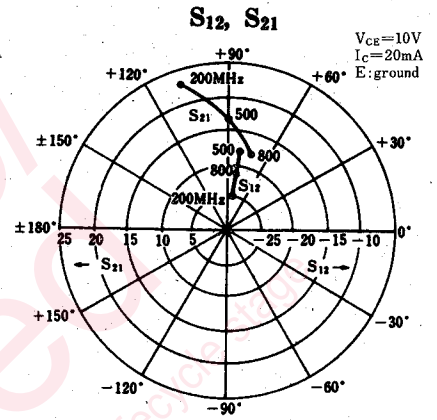
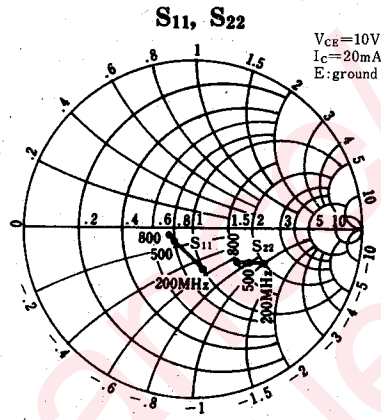
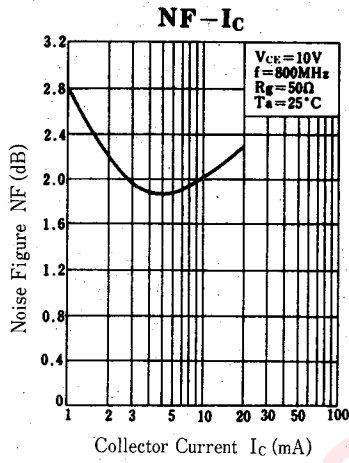
Type No. h_{FE} Classification



*1 h_{FEI} Ranking

Rank	B	C
h_{FE}	40~100	80~200
Marking Symbol	1XB	1XC





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