

HIGH FREQUENCY LOW NOISE AMPLIFIER APPLICATION.  
VHF BAND AMPLIFIER APPLICATION.

### FEATURES

- Small Reverse Transfer Capacitance  
:  $C_{re}=0.65\text{pF(Typ.)}$ .
- Low Noise Figure :  $\text{NF}=2.2\text{dB(Typ.)}$  at  $f=100\text{MHz}$ .
- High Transition Frequency :  $f_T=800\text{MHz(Typ.)}$ .

### MAXIMUM RATING (Ta=25 )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	20	mA
Emitter Current	$I_E$	-20	mA
Collector Power Dissipation	$P_C^*$	625	mW
		400	
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

\* Cu Lead-Frame : 625mW

Fe Lead-Frame : 400mW

### ELECTRICAL CHARACTERISTICS (Ta=25 )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=40\text{V}, I_E=0$	-	-	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$	-	-	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$ (Note)	$V_{CE}=5\text{V}, I_C=1\text{mA}$	40	-	198	
Reverse Transfer Capacitance	$C_{re}$	$V_{CE}=6\text{V}, f=1\text{MHz}, I_E=0$	-	-	1.0	pF
Transition Frequency	$f_T$	$V_{CE}=10\text{V}, I_C=8\text{mA}, f=100\text{MHz}$	500	800	-	MHz
Collector-Base Time Constant	$C_C \cdot r_{bb'}$	$V_{CE}=6\text{V}, I_E=-1\text{mA}, f=30\text{MHz}$	-	-	30	pS
Noise Figure	NF	$V_{CE}=6\text{V}, I_E=-1\text{mA}, f=100\text{MHz}$	-	-	4.0	dB
Power Gain	$G_{pe}$		15	-	-	

Note :  $h_{FE}$  Classification E:40 59, F:54 80, G:72 108, H:97 146, I:130 198

