

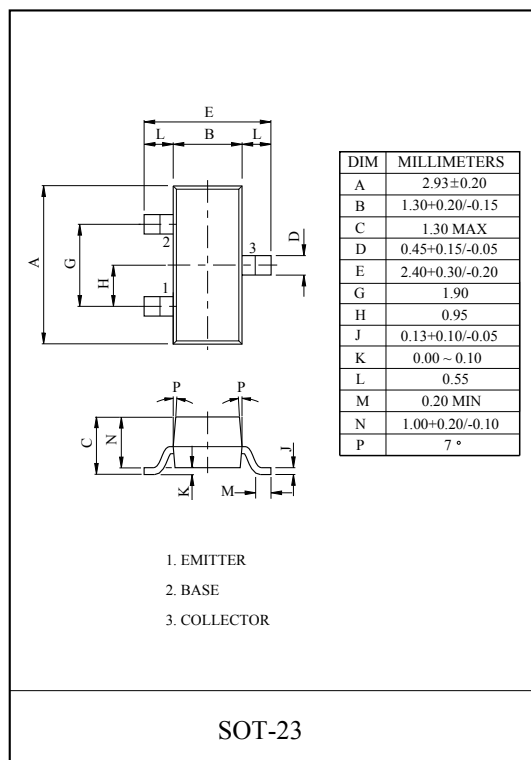
HIGH FREQUENCY LOW NOISE AMPLIFIER APPLICATION.
HF, VHF AMPLIFIER APPLICATION.

FEATURE

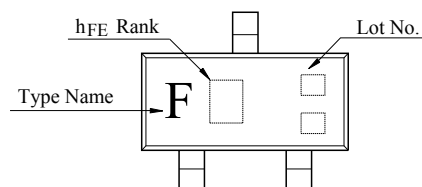
- Low Noise Figure : NF=3.5dB(Max.) (f=1MHz).

MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	100	mA
Emitter Current	I_E	-100	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C



Marking



ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=20V, I_E=0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=2V, I_C=0$	-	-	1.0	μA
DC Current Gain	h_{FE} (Note)	$V_{CE}=12V, I_C=2mA$	40	-	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$	-	-	0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$	-	-	1.0	V
Transition Frequency	f_T	$V_{CE}=10V, I_C=2mA$	80	120	-	MHz
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10V, I_E=0, f=1MHz$	-	2.2	3.0	pF
Collector-Base Time Constant	$C_c \cdot r_{bb'}$	$V_{CE}=10V, I_E=-1mA, f=30MHz$	-	30	50	pS
Noise Figure	NF	$V_{CE}=10V, I_E=-1mA, f=1MHz, R_g=50\Omega$	-	2.0	3.5	dB

Note : h_{FE} Classification R:40 ~ 80 , O:70 ~ 140 , Y:120 ~ 240

KTC3878S

y PARAMETERS (Typ.) (COMMON EMITTER $V_{CE}=6V$, $I_E=-1mA$, $f=1MHz$)

CHARACTERISTIC	SYMBOL	KTC3878S-R	KTC3878S-O	KTC3878S-Y	UNIT
Input Conductance	g_{ie}	0.5	0.35	0.22	mS
Input Capacitance	C_{ie}	50	48	46	pF
Output Conductance	g_{oe}	4	5	6.5	μS
Output Capacitance	C_{oe}	3.7	3.4	3.2	pF
Forward Transfer Admittance	$ y_{fe} $	36	36	36	mS
Phase Angle of Forward Transfer Admittance	θ_{fe}	-1.6	-1.6	-1.6	°
Reverse Transfer Admittance	$ y_{re} $	14	14	14	μS
Phase Angle of Reverse Transfer Admittance	θ_{re}	-90	-90	-90	°

