

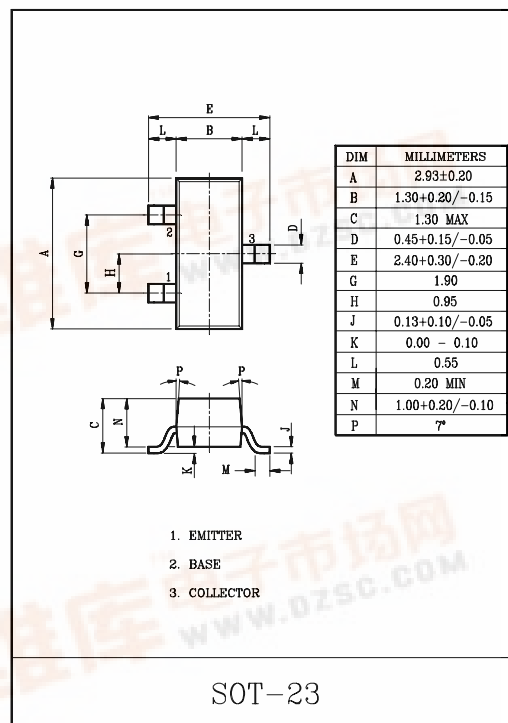
HIGH FREQUENCY LOW NOISE AMPLIFIER APPLICATION.  
HF, VHF AMPLIFIER APPLICATION.

### FEATURE

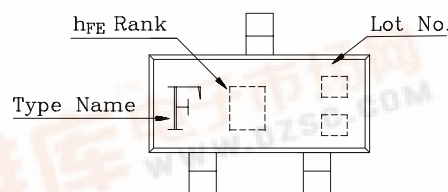
- Low Noise Figure : NF=3.5dB(Max.) (f=1MHz).

### MAXIMUM RATINGS (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	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=2V, I_C=0$	-	-	1.0	$\mu A$
DC Current Gain	$h_{FE}(\text{Note})$	$V_{CE}=12V, I_C=2mA$	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

# KTC3878

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

CHARACTERISTIC	SYMBOL	KTC3878-R	KTC3878-O	KTC3878-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	$\mu S$
Output Capacitance	$C_{oc}$	3.7	3.4	3.2	pF
Forward Transfer Admittance	$ y_{fe} $	36	36	36	mS
Phase Angle of Forward Transfer Admittance	$\theta_{fe}$	-1.6	-1.6	-1.6	$^\circ$
Reverse Transfer Admittance	$ y_{re} $	14	14	14	$\mu S$
Phase Angle of Reverse Transfer Admittance	$\theta_{re}$	-90	-90	-90	$^\circ$

