

**SEMICONDUCTOR  
TECHNICAL DATA**

**KTC4079**  
EPITAXIAL PLANAR NPN TRANSISTOR

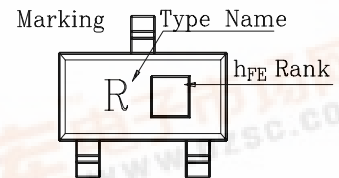
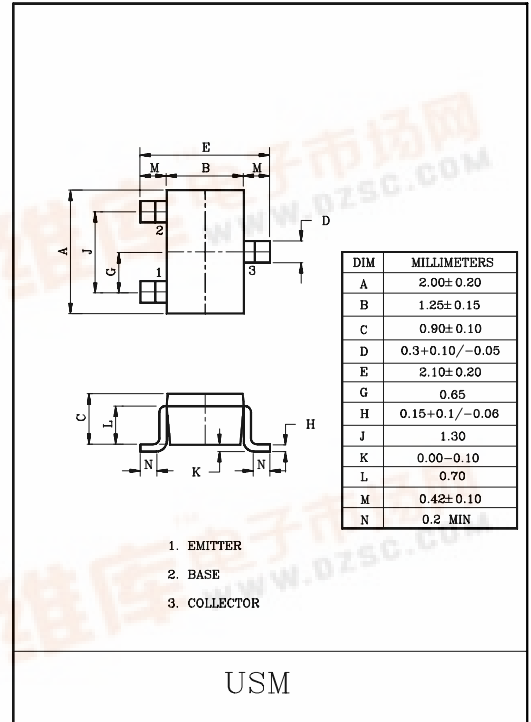
HIGH FREQUENCY APPLICATION,  
HF, VHF BAND AMPLIFIER APPLICATION.

FEATURE

- High Power Gain :  $G_{pe}=29dB(Typ.) (f=10.7MHz)$

MAXIMUM RATINGS ( $T_a=25^{\circ}C$ )

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	$I_C$	50	mA
Emitter Current	$I_E$	-50	mA
Collector Power Dissipation	$P_C$	100	mW
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature Range	$T_{stg}$	-55~150	$^{\circ}C$



ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=35V, I_E=0$	-	-	0.1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	-	-	1.0	$\mu A$
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	$f_T$	$V_{CE}=10V, I_C=1mA$	100	-	400	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	1.4	2.0	3.2	pF
Collector-Base Time Constant	$C_C \cdot r_{bb}$	$V_{CE}=10V, I_E=-1mA, f=30MHz$	10	-	50	pS
Power Gain	$G_{pe}$	$V_{CC}=6V, I_E=-1mA, f=10.7MHz$	27	29	33	dB

Note :  $h_{FE}$  Classification      R(1):40~80      ,      O(2):70~140      ,      Y(4):120~240



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## y PARAMETERS (Typ.)

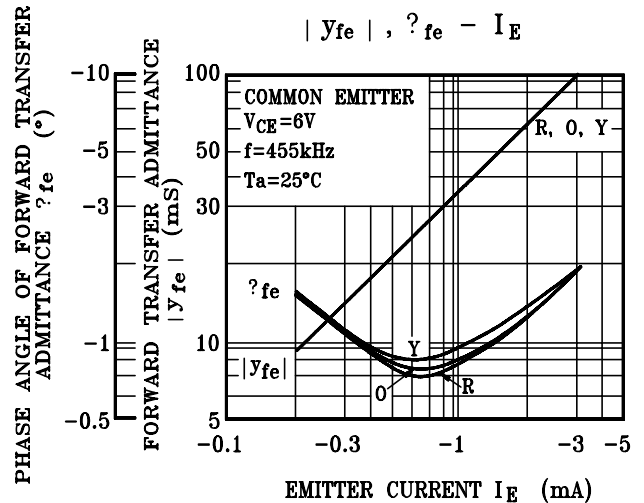
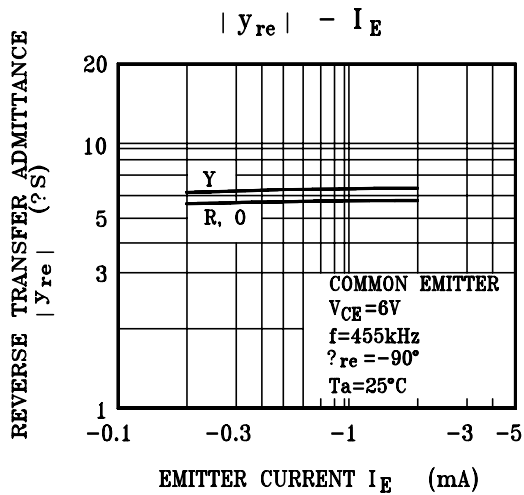
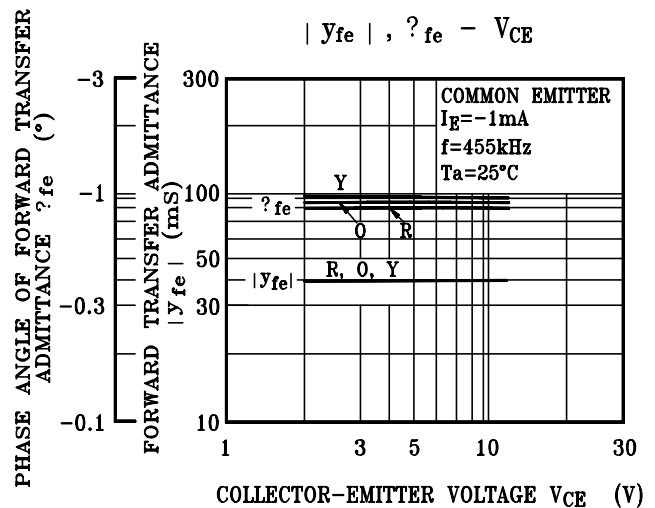
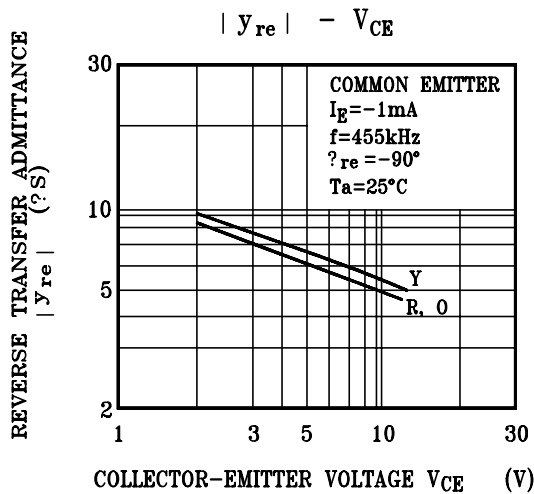
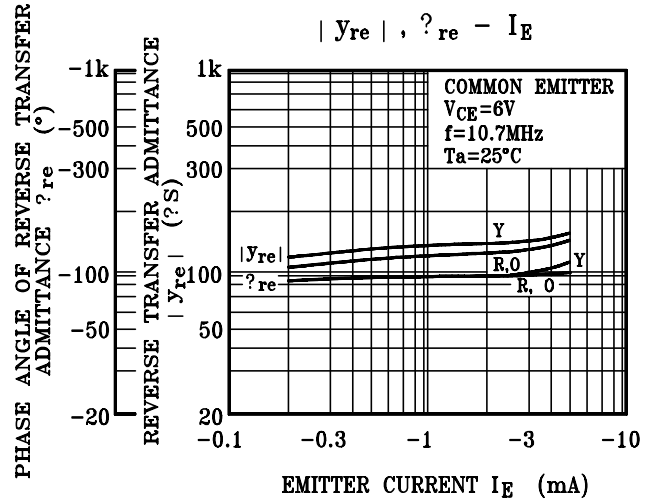
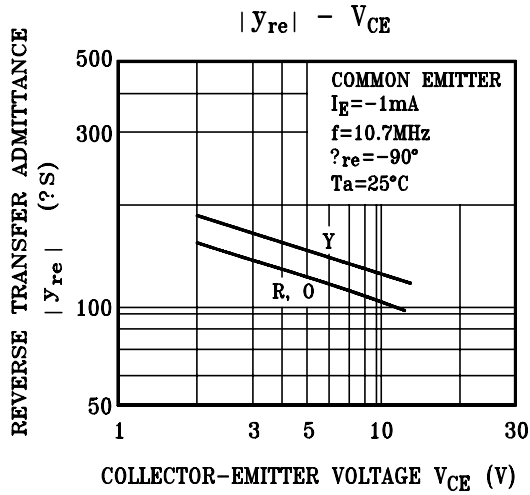
(1) (COMMON EMITTER  $f=455\text{kHz}$ ,  $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	KTC3879-R	KTC3879-O	KTC3879-Y	UNIT
Collector-Emitter Voltage	$V_{CE}$	6	6	6	V
Emitter Current	$I_E$	-1	-1	-1	mA
Input Conductance	$g_{ie}$	0.58	0.41	0.26	mS
Input Capacitance	$C_{ie}$	53	46	38	pF
Output Conductance	$g_{oe}$	1.9	2.7	4.8	$\mu\text{S}$
Output Capacitance	$C_{oe}$	2.6	2.8	3.6	pF
Forward Transfer Admittance	$ y_{fe} $	38	38	38	mS
Phase Angle of Forward Transfer Admittance	$\theta_{fe}$	-0.79	-0.83	-0.92	$^\circ$
Reverse Transfer Admittance	$ y_{re} $	5.7	5.7	6.2	$\mu\text{S}$
Phase Angle of Reverse Transfer Admittance	$\theta_{re}$	-90	-90	-90	$^\circ$

(2) (COMMON EMITTER  $f=10.7\text{MHz}$ ,  $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	KTC3879-R	KTC3879-O	KTC3879-Y	UNIT
Collector-Emitter Voltage	$V_{CE}$	6	6	6	V
Emitter Current	$I_E$	-1	-1	-1	mA
Input Conductance	$g_{ie}$	1.04	0.85	0.65	mS
Input Capacitance	$C_{ie}$	49	43	36	pF
Output Conductance	$g_{oe}$	10	15	28	$\mu\text{S}$
Output Capacitance	$C_{oe}$	2.7	2.9	3.6	pF
Forward Transfer Admittance	$ y_{fe} $	37	37	37	mS
Phase Angle of Forward Transfer Admittance	$\theta_{fe}$	-9.6	-10.4	-11.5	$^\circ$
Reverse Transfer Admittance	$ y_{re} $	120	120	140	$\mu\text{S}$
Phase Angle of Reverse Transfer Admittance	$\theta_{re}$	-90	-90	-90	$^\circ$

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