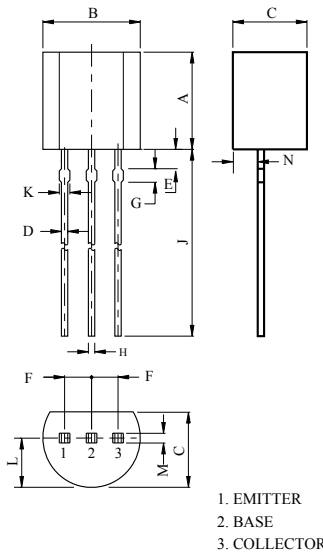
GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES

· Low Leakage Current
: I_{CEX}=10nA(Max.) ; V_{CE}=60V, $V_{EB(OFF)}$=3V.
· Low Saturation Voltage
: $V_{CE(sat)}$=0.3V(Max.) ; I_C=150mA, I_B=15mA.
· Complementary to the KTN2907/2907A.
· KTN2222/2222A Electrically Similar to 2N2222/2222A.



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

1. EMITTER
2. BASE
3. COLLECTOR

TO-92

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING		UNIT
		KTN2222	KTN2222A	
Collector-Base Voltage	V_{CBO}	60	75	V
Collector-Emitter Voltage	V_{CEO}	30	40	V
Emitter-Base Voltage	V_{EBO}	5	6	V
Collector Current	I_C	600		mA
Collector Power Dissipation (Ta=25℃)	P_C	625		mW
Junction Temperature	T_j	150		℃
Storage Temperature Range	T_{stg}	-55～150		℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

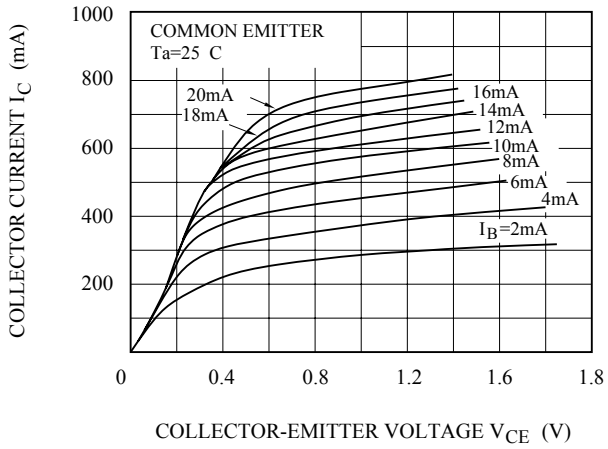
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	KTN2222A	I_{CEX}	V_{CE}=60V, $V_{EB(OFF)}$=3V	-	-	10	nA
Collector Cut-off Current	KTN2222	I_{CBO}	V_{CB}=50V, I_E=0	-	-	0.01	μA
	KTN2222A		V_{CB}=60V, I_E=0	-	-	0.01	
Emitter Cut-off Current	KTN2222A	I_{EBO}	V_{EB}=3V, I_C=0	-	-	10	nA
Collector-Base Breakdown Voltage	KTN2222	$V_{(BR)CBO}$	I_C=10μA, I_E=0	60	-	-	V
	KTN2222A			75	-	-	
Collector-Emitter Breakdown Voltage *	KTN2222	$V_{(BR)CEO}$	I_E=10mA, I_B=0	30	-	-	V
	KTN2222A			40	-	-	
Emitter-Base Breakdown Voltage	KTN2222	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5	-	-	V
	KTN2222A			6	-	-	
DC Current Gain *	KTN2222 KTN2222A	h_{FE}(1)	I_C=0.1mA, V_{CE}=10V	35	-	-	
		h_{FE}(2)	I_C=1mA, V_{CE}=10V	50	-	-	
		h_{FE}(3)	I_C=10mA, V_{CE}=10V	75	-	-	
		h_{FE}(4)	I_C=150mA, V_{CE}=10V	100	-	300	
	KTN2222	h_{FE}(5)	I_C=500mA, V_{CE}=10V	30	-	-	
	KTN2222A			40	-	-	
Collector-Emitter Saturation Voltage *	KTN2222	$V_{CE(sat)}$1	I_C=150mA, I_B=15mA	-	-	0.4	V
	KTN2222A			-	-	0.3	
	KTN2222	$V_{CE(sat)}$2	I_C=500mA, I_B=50mA	-	-	1.6	
	KTN2222A			-	-	1	
Base-Emitter Saturation Voltage *	KTN2222	$V_{BE(sat)}$1	I_C=150mA, I_B=15mA	-	-	1.3	V
	KTN2222A			0.6	-	1.2	
	KTN2222	$V_{BE(sat)}$2	I_C=500mA, I_B=50mA	-	-	2.6	
	KTN2222A			-	-	2.0	
Transition Frequency	KTN2222	f_T	I_C=20mA, V_{CE}=20V, f=100MHz	250	-	-	MHz
	KTN2222A			300	-	-	
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz	-	-	8	pF
Input Capacitance	KTN2222	C_{ib}	V_{EB}=0.5V, I_C=0, f=1.0MHz	-	-	30	pF
	KTN2222A			-	-	25	

* Pulse Test : Pulse Width≦300μS, Duty Cycle≦2%.

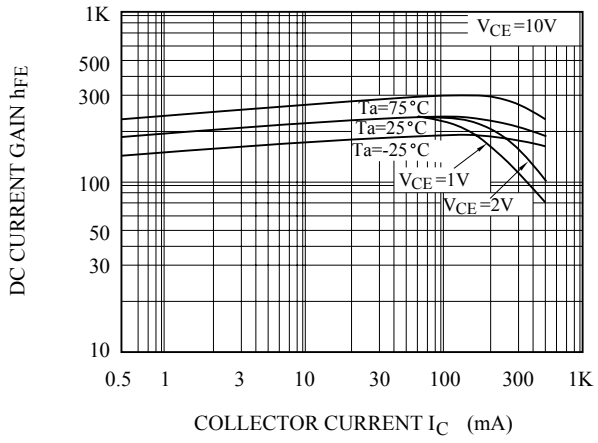
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Impedance	KTN2222A	h_{ie}	I_C=1mA, V_{CE}=10V, f=1kHz	2	-	8	kΩ
			I_C=10mA, V_{CE}=10V, f=1kHz	0.25	-	1.25	
Voltage Feedback Ratio	KTN2222A	h_{re}	I_C=1mA, V_{CE}=10V, f=1kHz	-	-	8	$x10^{-4}$
			I_C=10mA, V_{CE}=10V, f=1kHz	-	-	4	
Small-Singal Current Gain	KTN2222A	h_{fe}	I_C=1mA, V_{CE}=10V, f=1kHz	50	-	300	
			I_C=10mA, V_{CE}=10V, f=1kHz	75	-	375	
Collector Output Admittance	KTN2222A	h_{oe}	I_C=1mA, V_{CE}=10V, f=1kHz	5	-	35	μ℧
			I_C=10mA, V_{CE}=10V, f=1kHz	25	-	200	
Collector-Base Time Constant	KTN2222A	$C_c \cdot rbb'$	I_E=20mA, V_{CB}=20V, f=31.8MHz	-	-	150	pS
Noise Figure	KTN2222A	NF	I_C=100μA, V_{CE}=10V, Rg=1kΩ, f=1kHz	-	-	4	dB
Switching Time	Delay Time	t_d	V_{CC}=30V, $V_{BE(OFF)}$=0.5V, I_C=150mA, I_{B1}=15mA	-	-	10	nS
	Rise Time	t_r		-	-	25	
	Storage Time	t_{stg}	V_{CC}=30V, I_C=150mA, I_{B1}=-I_{B2}=15mA	-	-	225	
	Fall Time	t_f		-	-	60	

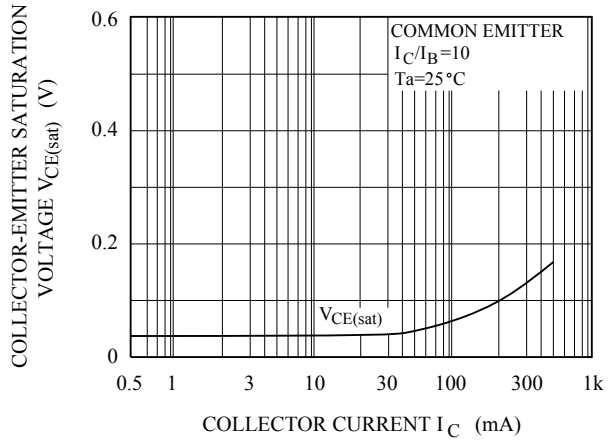
I_C - V_{CE}



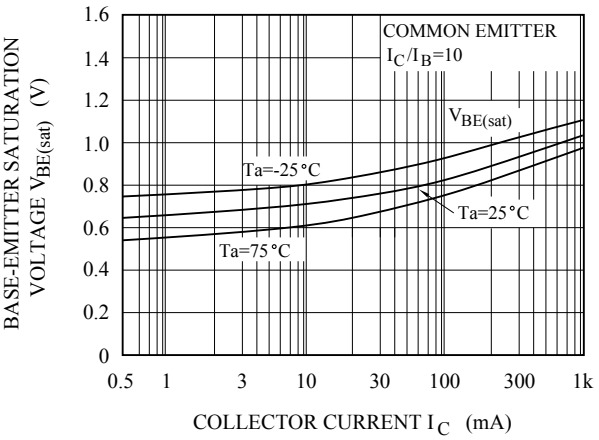
h_{FE} - I_C



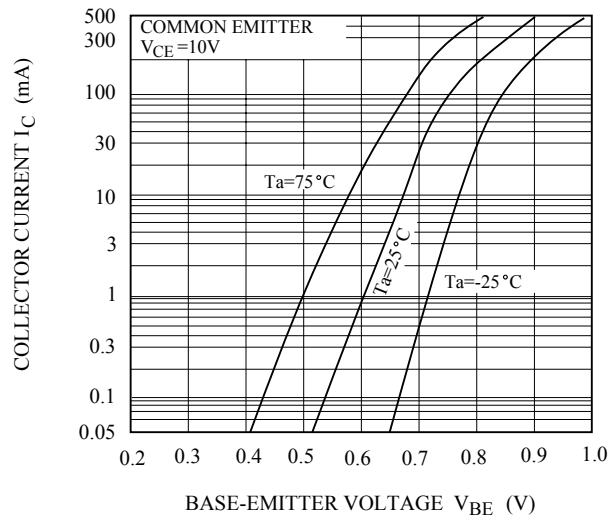
$V_{CE(sat)}$ - I_C



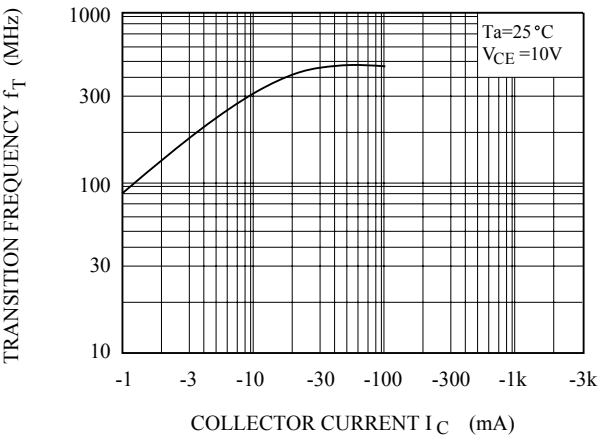
$V_{BE(sat)}$ - I_C



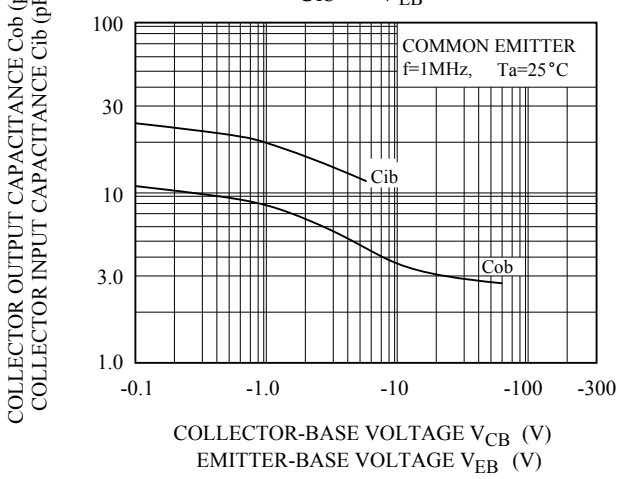
I_C - V_{BE}



f_T - I_C



Cob - V_{CB}
Cib - V_{EB}



Pc - Ta