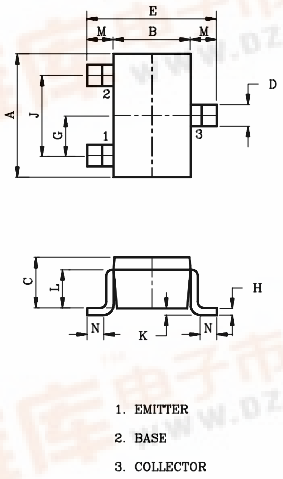
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTN2907U/AU
EPITAXIAL PLANAR PNP TRANSISTOR

GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES
- Low Leakage Current
  : I_{CEX}=-50nA(Max.) ; V_{CE}=-30V, V_{EB}=-0.5V.
- Low Saturation Voltage
  : $V_{CE(sat)}$=-0.4V(Max.) ; I_C=-150mA, I_B=-15mA.



DIM	MILLIMETERS
A	2.00± 0.20
B	1.25± 0.15
C	0.90± 0.10
D	0.3+0.10/−0.05
E	2.10± 0.20
G	0.65
H	0.15+0.1/−0.06
J	1.30
K	0.00−0.10
L	0.70
M	0.42± 0.10
N	0.2 MIN

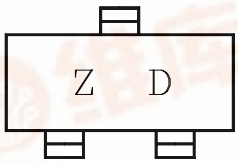
1. EMITTER
2. BASE
3. COLLECTOR

USM

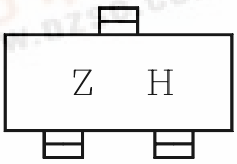
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING		UNIT
		KTN2907U	KTN2907AU	
Collector-Base Voltage	V_{CBO}	-60		V
Collector-Emitter Voltage	V_{CEO}	-40	-60	V
Emitter-Base Voltage	V_{EBO}	-5		V
Collector Current	I_C	-600		mA
Collector Power Dissipation (Ta=25℃)	P_C	100		mW
Junction Temperature	T_j	150		℃
Storage Temperature Range	T_{stg}	-55~150		℃

Marking



KTN2907U



KTN2907AU

MARK SPEC

TYPE	MARK
KTN2907U	Z D
KTN2907AU	Z H

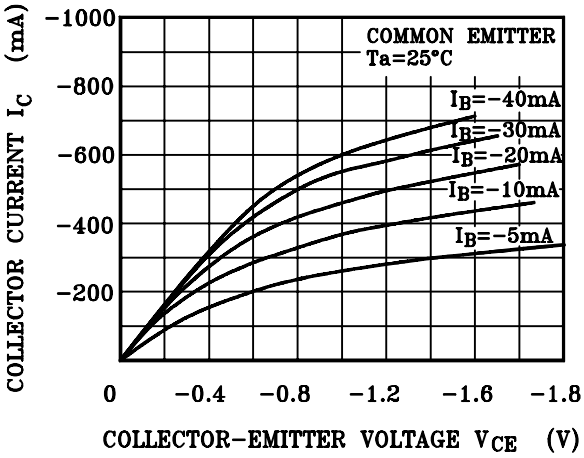
KTN2907U/AU

ELECTRICAL CHARACTERISTICS (Ta=25℃)

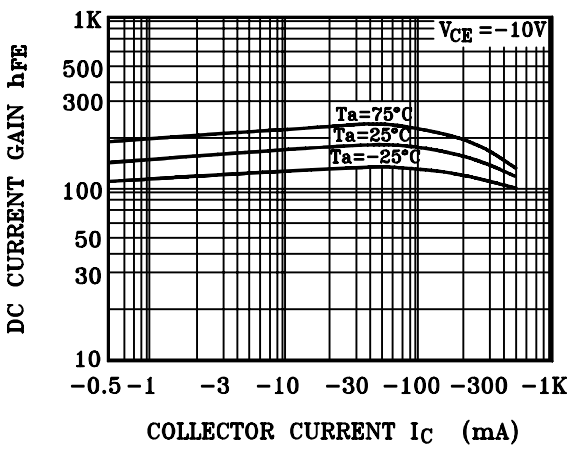
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CEX}	V_{CE}=-30V, V_{EB}=-0.5V	-	-	-50	nA
Collector Cut-off Current	KTN2907U	I_{CBO}	V_{CB}=-50V, I_E=0	-	-	-20	nA
	KTN2907AU			-	-	-10	
Collector-Base Breakdown Voltage *		$V_{(BR)CBO}$	I_C=-10μA, I_E=0	-60	-	-	V
Collector-Emitter Breakdown Voltage	KTN2907U	$V_{(BR)CEO}$	I_C=-10mA, I_B=0	-40	-	-	V
	KTN2907AU			-60	-	-	
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5	-	-	V
DC Current Gain *	KTN2907U	h_{FE}(1)	I_C=-0.1mA, V_{CE}=-10V	35	-	-	
	KTN2907AU			75	-	-	
	KTN2907U	h_{FE}(2)	I_C=-0.1mA, V_{CE}=-10V	50	-	-	
	KTN2907AU			100	-	-	
	KTN2907U	h_{FE}(3)	I_C=-10mA, V_{CE}=-10V	75	-	-	
	KTN2907AU			100	-	-	
	KTN2907U	h_{FE}(4) *	I_C=-150mA, V_{CE}=-10V	100	-	300	
	KTN2907AU						
	KTN2907U	h_{FE}(5) *	I_C=-500mA, V_{CE}=-10V	30	-	-	
	KTN2907AU			50	-	-	
Collector-Emitter Saturation Voltage *		$V_{CE(sat)}$1	I_C=-150mA, I_B=-15mA	-	-	-0.4	V
		$V_{CE(sat)}$2	I_C=-500mA, I_B=-50mA	-	-	-1.6	
Base-Emitter Saturation Voltage *		$V_{BE(sat)}$1	I_C=-150mA, I_B=-15mA	-	-	-1.3	V
		$V_{BE(sat)}$2	I_C=-500mA, I_B=-50mA	-	-	-2.6	
Transition Frequency		f_T	V_{CE}=-20V, I_C=-50mA, f=100MHz	200	-	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	-	8	pF
Input Capacitance		C_{ib}	V_{BE}=-2V, I_C=0, f=1MHz	-	-	30	pF
Switching Time	Turn-On Time	t_{on}	V_{CC}=-30V, I_C=-150mA I_{B1}=-15mA	-	26	45	nS
	Delay Time	t_d		-	6.0	10	
	Rise Time	t_r		-	20	40	
	Turn-Off Time	t_{off}	V_{CC}=-6V, I_C=-150mA I_{B1}=-I_{B2}=-15mA	-	70	100	
	Storage Time	t_{stg}		-	50	80	
	Fall Time	t_f		-	20	30	

Note : *Pulse Test : Pulse Width ≦300μS, Duty Cycle≦2.0%.

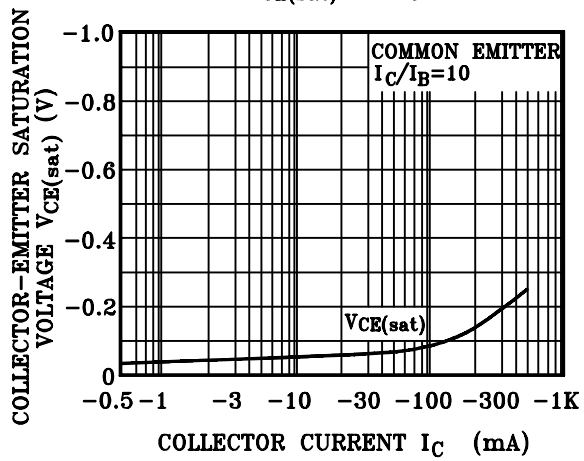
I_C – V_{CE}



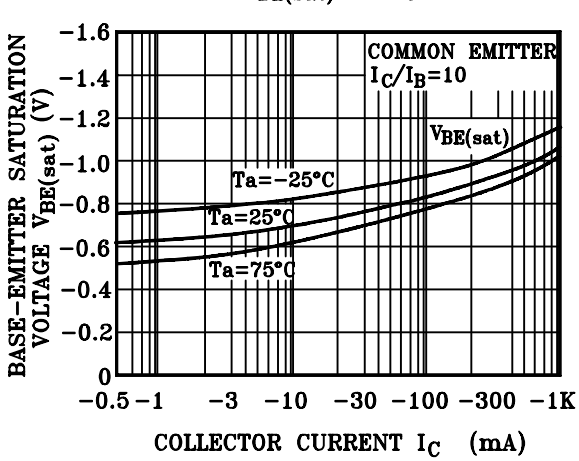
h_{FE} – I_C



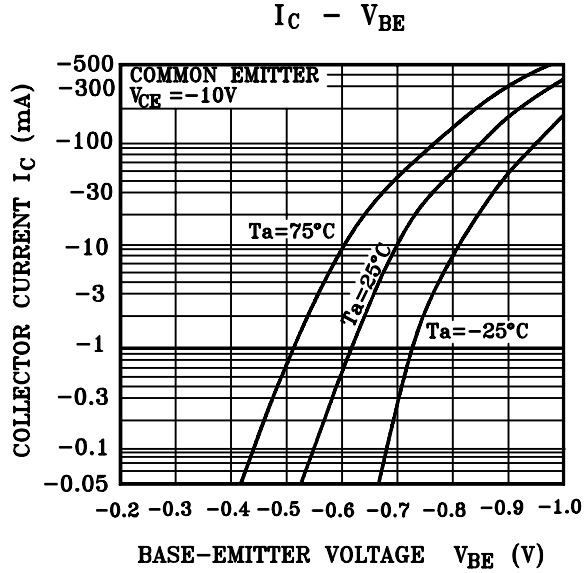
$V_{CE(sat)}$ – I_C



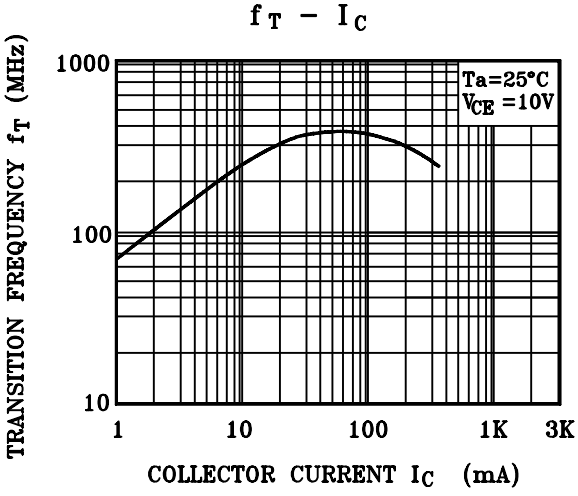
$V_{BE(sat)}$ – I_C



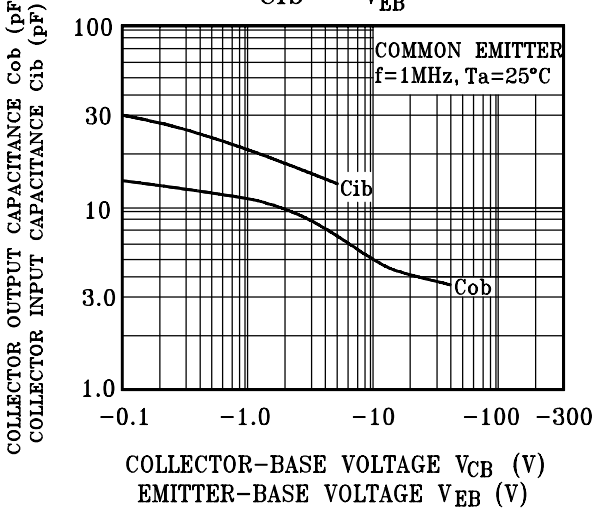
I_C – V_{BE}



f_T – I_C



Cob – V_{CB}
Cib – V_{EB}



P_C – Ta