

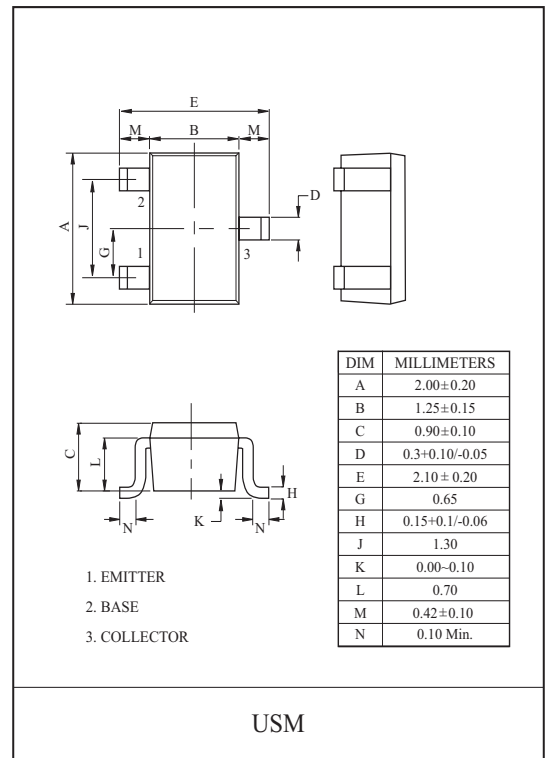
**GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.**

FEATURES

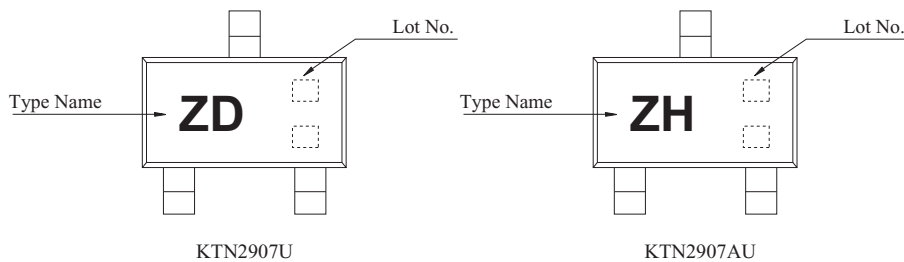
- Low Leakage Current
: $I_{CEX} = -50\text{nA}(\text{Max.})$; $V_{CE} = -30\text{V}$, $V_{EB} = -0.5\text{V}$.
- Low Saturation Voltage
: $V_{CE(\text{sat})} = -0.4\text{V}(\text{Max.})$; $I_C = -150\text{mA}$, $I_B = -15\text{mA}$.
- Complementary to the KTN2222U/2222AU.
- Suffix U : Qualified to AEC-Q101.
ex) KTN2907AU-RTK/HU

MAXIMUM RATING (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



MARK SPEC

TYPE	MARK
KTN2907U	Z D
KTN2907AU	Z H

KTN2907U/AU

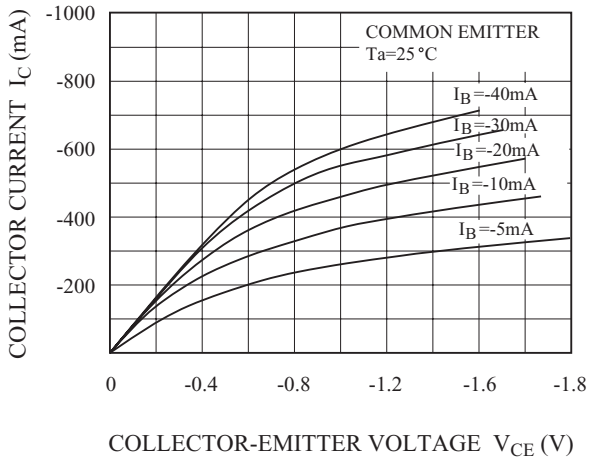
ELECTRICAL CHARACTERISTICS (Ta=25 °C)

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		$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-60	-	-	V
Collector-Emitter Breakdown Voltage *	KTN2907U	$V_{(BR)CEO}$	$I_C=-10mA, I_B=0$	-40	-	-	V
	KTN2907AU			-60	-	-	
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5	-	-	V
DC Current Gain *	KTN2907U	$h_{FE(1)}$	$I_C=-0.1mA, V_{CE}=-10V$	35	-	-	
	KTN2907AU			75	-	-	
	KTN2907U	$h_{FE(2)}$	$I_C=-1.0mA, V_{CE}=-10V$	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}	$V_{BE}=-2V, I_C=0, f=1.0MHz$	-	-	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	

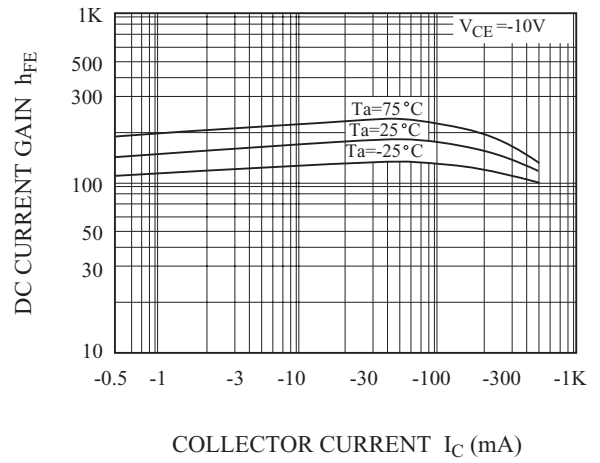
* Pulse Test : Pulse Width 300 μ s, Duty Cycle 2%.

KTN2907U/AU

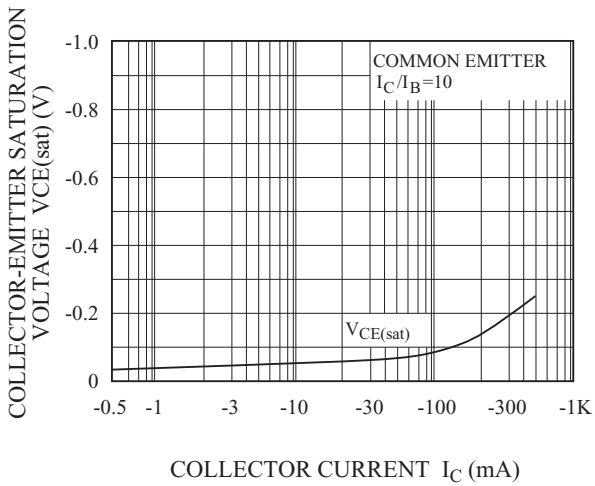
$I_C - V_{CE}$



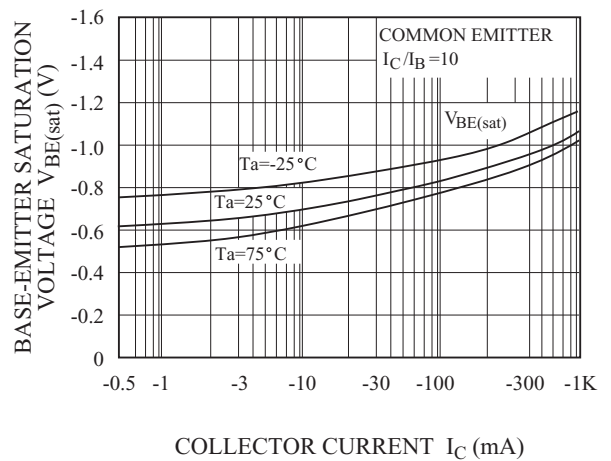
$h_{FE} - I_C$



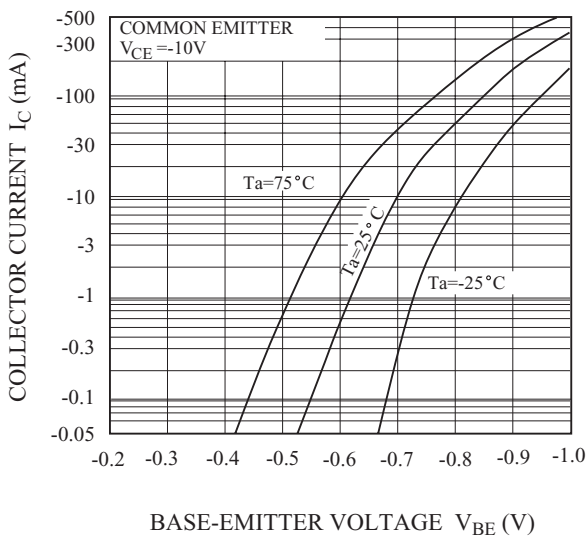
$V_{CE(sat)} - I_C$



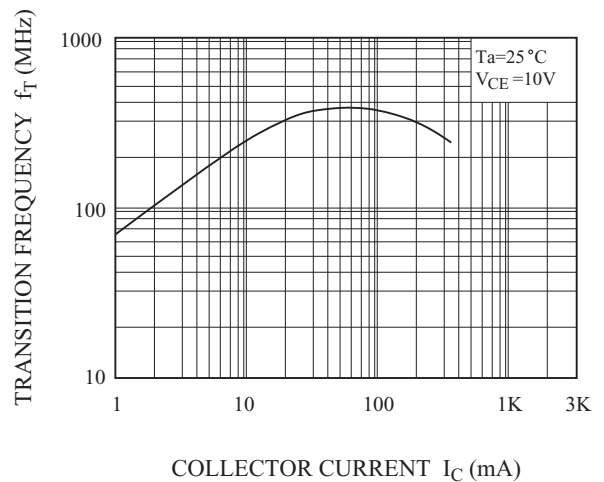
$V_{BE(sat)} - I_C$



$I_C - V_{BE}$



$f_T - I_C$



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