

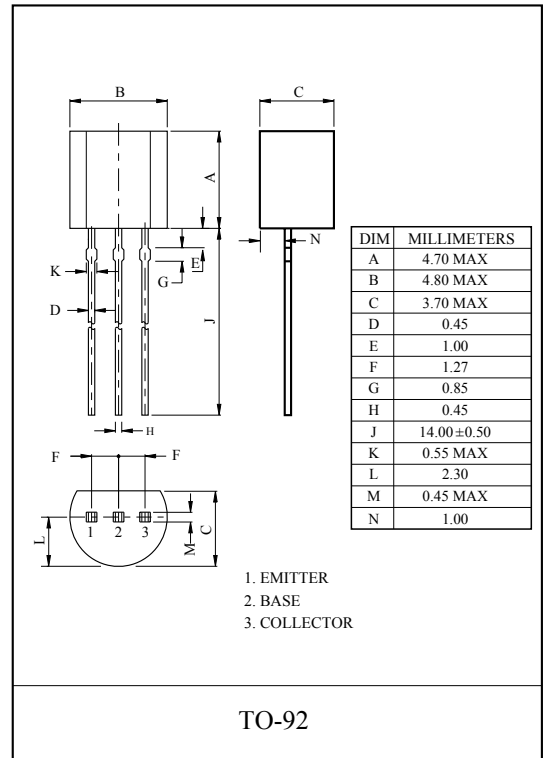
GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION.

#### 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 KTN2222/2222A.
- KTN2907/2907A Electrically Similar to 2N2907/2907A.

#### MAXIMUM RATING ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING		UNIT
		KTN2907	KTN2907A	
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 ( $T_a = 25^\circ\text{C}$ )	$P_C$	625		mW
Junction Temperature	$T_j$	150		$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	-55 ~ 150		$^\circ\text{C}$



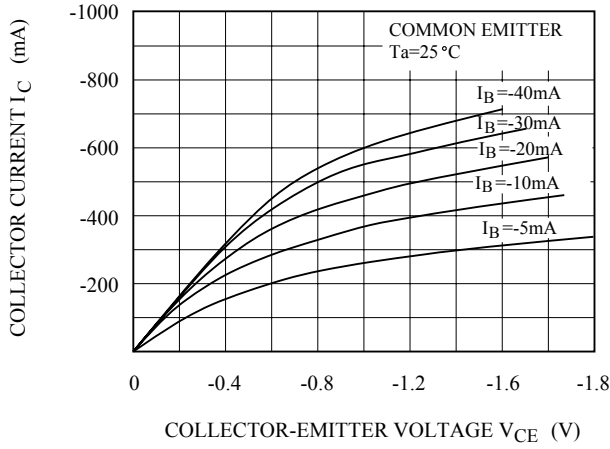
# KTN2907/A

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

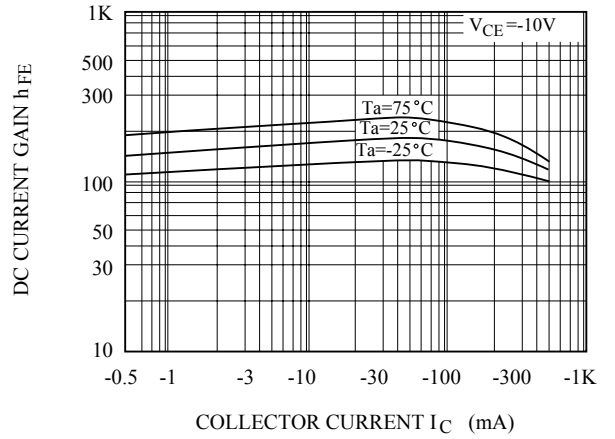
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current		$I_{CEX}$	$V_{CE}=-30V, V_{EB}=-0.5V$	-	-	-50	nA	
Collector Cut-off Current	KTN2907	$I_{CBO}$	$V_{CB}=-50V, I_E=0$	-	-	-20	nA	
	KTN2907A			-	-	-10		
Collector-Base Breakdown Voltage *		$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-60	-	-	V	
Collector-Emitter Breakdown Voltage	KTN2907	$V_{(BR)CEO}$	$I_C=-10mA, I_B=0$	-40	-	-	V	
	KTN2907A			-60	-	-		
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5	-	-	V	
DC Current Gain *	KTN2907	$h_{FE(1)}$	$I_C=-0.1mA, V_{CE}=-10V$	35	-	-		
	KTN2907A			75	-	-		
	KTN2907	$h_{FE(2)}$	$I_C=-1mA, V_{CE}=-10V$	50	-	-		
	KTN2907A			100	-	-		
	KTN2907	$h_{FE(3)}$	$I_C=-10mA, V_{CE}=-10V$	75	-	-		
	KTN2907A			100	-	-		
	KTN2907	$h_{FE(4)}^*$	$I_C=-150mA, V_{CE}=-10V$	100	-	300		
	KTN2907A			100	-	300		
KTN2907	$h_{FE(5)}^*$	$I_C=-500mA, V_{CE}=-10V$	30	-	-			
KTN2907A			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		

\* Pulse Test : Pulse Width  $\leq 300\mu S$ , Duty Cycle  $\leq 2\%$ .

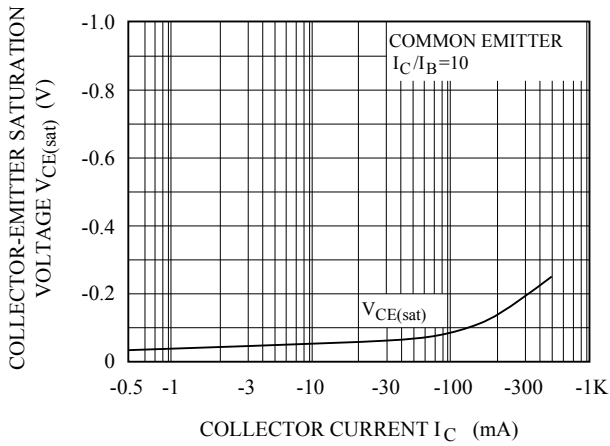
$I_C - V_{CE}$



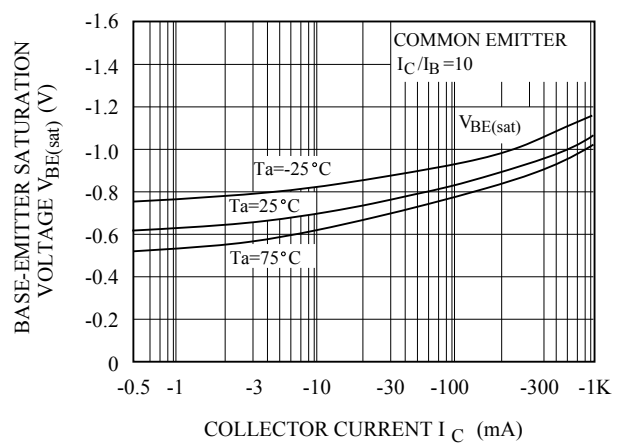
$h_{FE} - I_C$



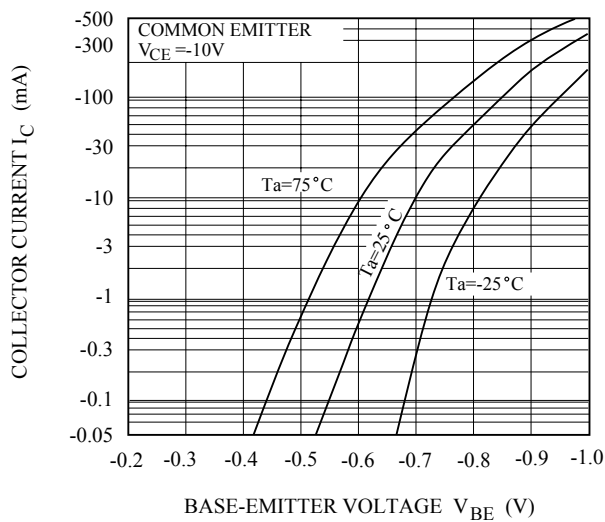
$V_{CE(sat)} - I_C$



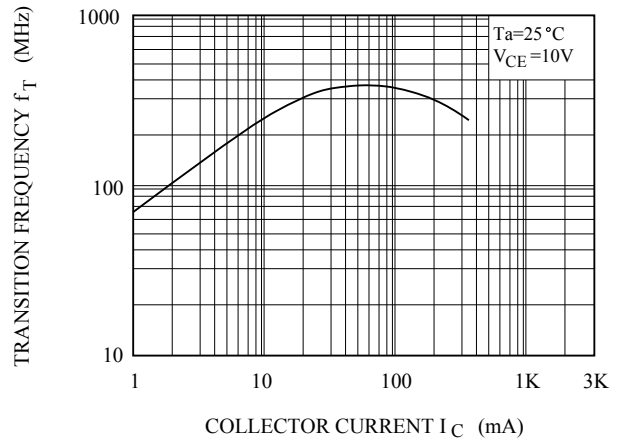
$V_{BE(sat)} - I_C$



$I_C - V_{BE}$



$f_T - I_C$



# KTN2907/A

