

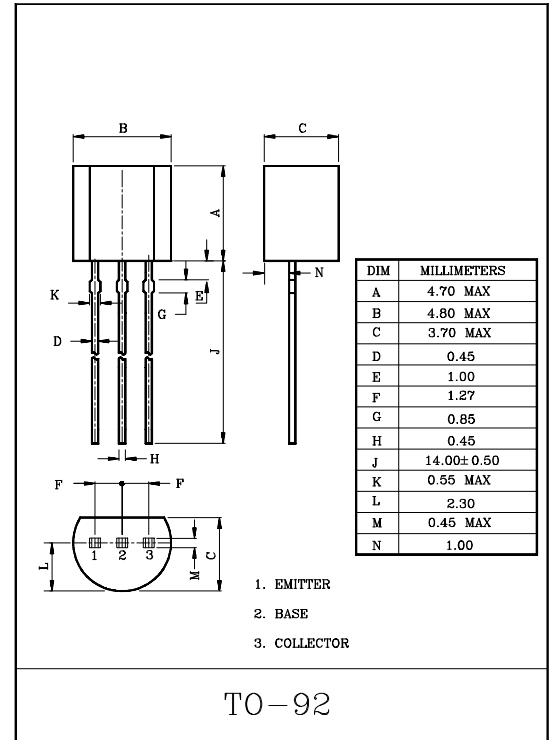
HIGH SPEED SWITCHING APPLICATION.

#### FEATURES

- High Frequency Characteristics  
:  $f_T=500\text{MHz}$  (Min.) ( $V_{CE}=10\text{V}$ ,  $f=100\text{MHz}$ ,  $I_C=10\text{mA}$ ).
- Excellent Switching Characteristics.
- KTN2369/2369A Electrically Similar to 2N2369/2369A.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	4.5	V
Collector Current	$I_C$	500	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	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$



# KTN2369/A

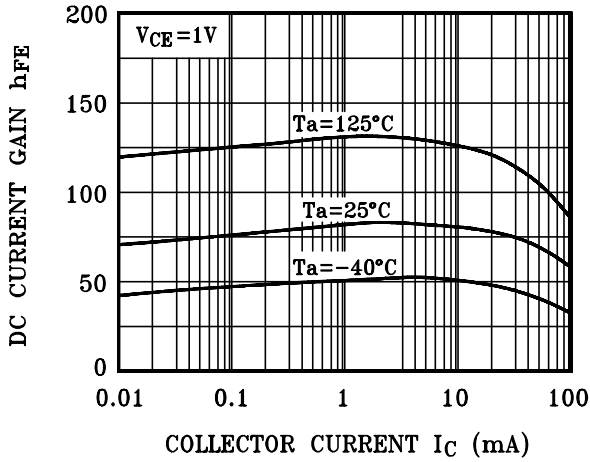
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I <sub>CBO</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0	-	-	0.4	μA
			V <sub>CB</sub> =20V, I <sub>E</sub> =0, Ta=125°C	-	-	30	
Collector-Base Breakdown Voltage		V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	40	-	-	V
Collector-Emitter Breakdown Voltage *		V <sub>(BR)CEO</sub>	I <sub>E</sub> =10mA, I <sub>B</sub> =0	15	-	-	
Emitter-Base Breakdown Voltage		V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	4.5	-	-	
DC Current Gain *	KTN2369	h <sub>FE</sub>	I <sub>C</sub> =10mA, V <sub>CE</sub> =1.0V	40	-	120	
	KTN2369A			-	-	120	
	KTN2369		I <sub>C</sub> =10mA, V <sub>CE</sub> =1.0V, Ta=-55°C	20	-	-	
	KTN2369A		I <sub>C</sub> =10mA, V <sub>CE</sub> =0.35V, Ta=-55°C	20	-	-	
	KTN2369		I <sub>C</sub> =100mA, V <sub>CE</sub> =2.0V	20	-	-	
	KTN2369A		I <sub>C</sub> =100mA, V <sub>CE</sub> =1.0V	20	-	-	
Collector-Emitter Saturation Voltage *		V <sub>CE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA	-	-	0.25	V
Base-Emitter Saturation Voltage *		V <sub>BE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA	0.70	-	0.85	V
Transition Frequency		f <sub>T</sub>	I <sub>C</sub> =10mA, V <sub>CE</sub> =10V, f=100MHz	500	-	-	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=1.0MHz	-	-	4.0	pF
Storage Time	KTN2369A	T <sub>stg</sub>	I <sub>C</sub> =100mA, I <sub>B1</sub> =-I <sub>B2</sub> =10mA, V <sub>CC</sub> =10V	-	-	13	nS
Turn-on Time		t <sub>on</sub>	V <sub>CC</sub> =3.0V, I <sub>C</sub> =10mA, I <sub>B1</sub> =3.0mA, I <sub>B2</sub> =-1.5mA	-	-	12	
Turn-off Time	KTN2369A	t <sub>off</sub>	I <sub>C</sub> =10mA, I <sub>B1</sub> =3.0mA, I <sub>B2</sub> =-1.5mA, V <sub>CC</sub> =3.0V	-	-	15	

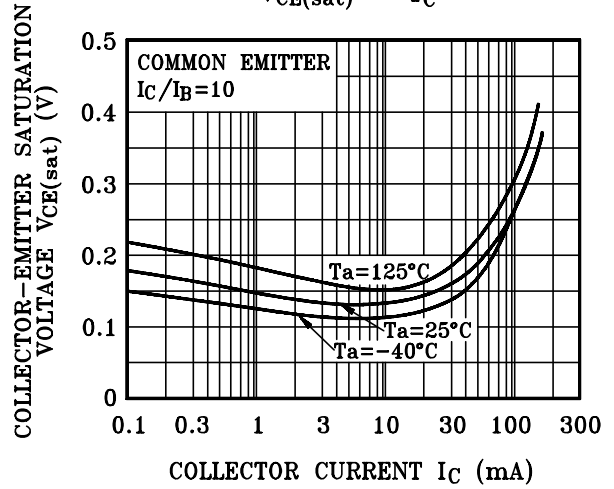
Note : \*Pulse Test : Pulse Width ≤300μS, Duty Cycle≤2.0%

# KTN2369/A

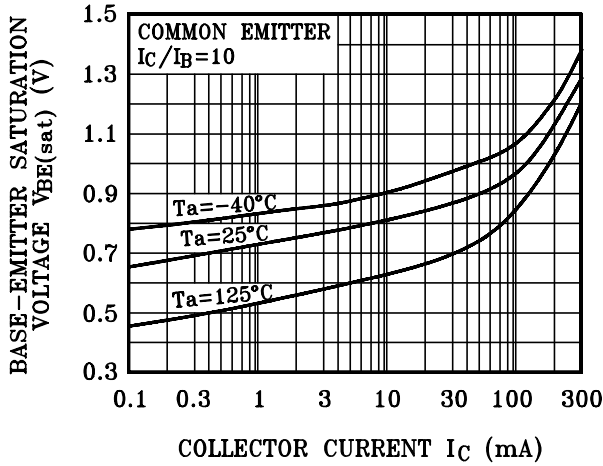
$h_{FE} - I_C$



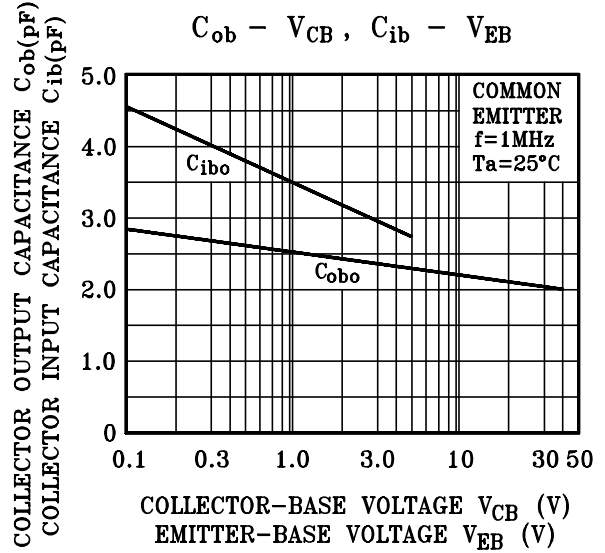
$V_{CE(sat)} - I_C$



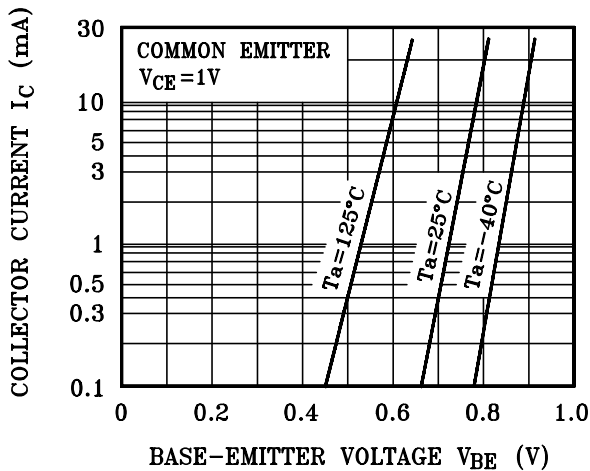
$V_{BE(sat)} - I_C$



$C_{ob} - V_{CB}, C_{ib} - V_{EB}$



$I_C - V_{BE}$



$P_C - T_a$

