

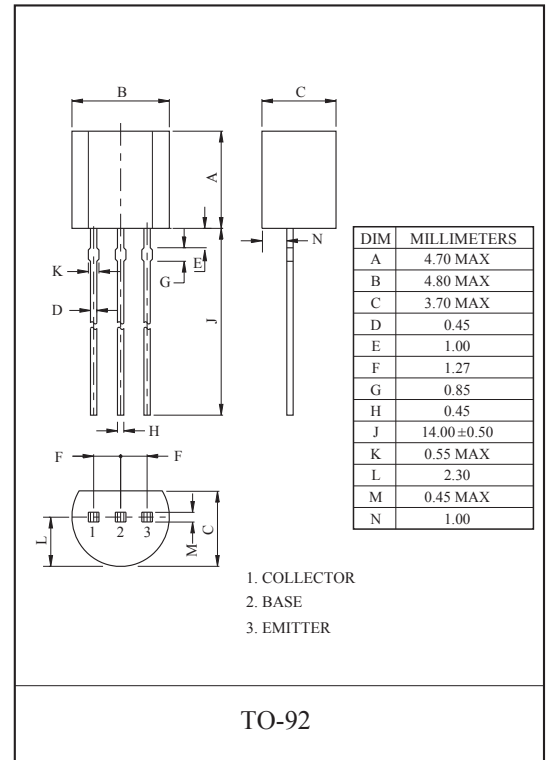
HIGH SPEED SWITCHING APPLICATION.

FEATURES

- High Frequency Characteristics
: $f_T=500\text{MHz}(\text{Min.})$ ($V_{CE}=10\text{V}$, $f=100\text{MHz}$, $I_C=10\text{mA}$).
- Excellent Switching Characteristics.

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

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	$^\circ\text{C}$

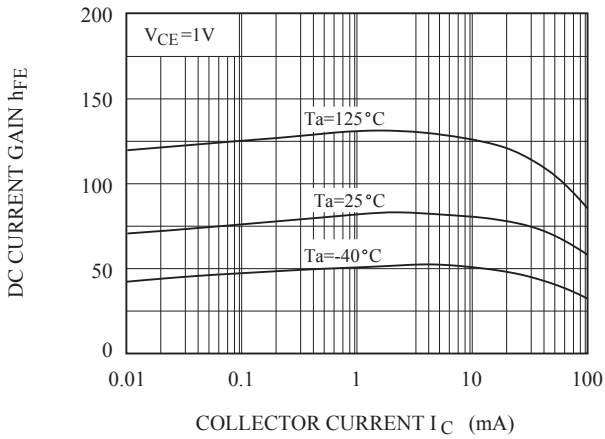


ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

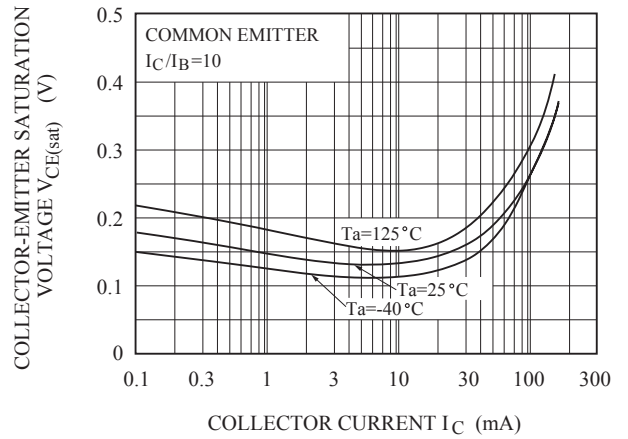
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=20\text{V}$, $I_E=0$	-	-	0.4	μA
			$V_{CB}=20\text{V}$, $I_E=0$, $T_a=125^\circ\text{C}$	-	-	30	
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=10\mu\text{A}$, $I_E=0$	40	-	-	V
Collector-Emitter Breakdown Voltage *		$V_{(BR)CEO}$	$I_E=10\text{mA}$, $I_B=0$	15	-	-	
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=10\mu\text{A}$, $I_C=0$	4.5	-	-	
DC Current * Gain	KTH2369/A	h_{FE}	$I_C=10\text{mA}$, $V_{CE}=1.0\text{V}$	40	-	120	
	KTH2369		$I_C=10\text{mA}$, $V_{CE}=1.0\text{V}$, $T_a=-55^\circ\text{C}$	20	-	-	
	KTH2369A		$I_C=10\text{mA}$, $V_{CE}=0.35\text{V}$, $T_a=-55^\circ\text{C}$	20	-	-	
	KTH2369		$I_C=100\text{mA}$, $V_{CE}=2.0\text{V}$	20	-	-	
	KTH2369A		$I_C=100\text{mA}$, $V_{CE}=1.0\text{V}$	20	-	-	
Collector-Emitter Saturation Voltage *		$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=1.0\text{mA}$	-	-	0.25	V
Base-Emitter Saturation Voltage *		$V_{BE(sat)}$	$I_C=10\text{mA}$, $I_B=1.0\text{mA}$	0.70	-	0.85	V
Transition Frequency		f_T	$I_C=10\text{mA}$, $V_{CE}=10\text{V}$, $f=100\text{MHz}$	500	-	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=5.0\text{V}$, $I_E=0$, $f=1.0\text{MHz}$	-	-	4.0	pF
Storage Time		t_{stg}	$I_C=100\text{mA}$, $I_{B1}=-I_{B2}=10\text{mA}$, $V_{CC}=10\text{V}$	-	-	13	nS
Turn-on Time		t_{on}	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=3.0\text{mA}$, $I_{B2}=-1.5\text{mA}$	-	-	12	
Turn-off Time		t_{off}	$I_C=10\text{mA}$, $I_{B1}=3.0\text{mA}$, $I_{B2}=-1.5\text{mA}$, $V_{CC}=3.0\text{V}$	-	-	15	

Note : *Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

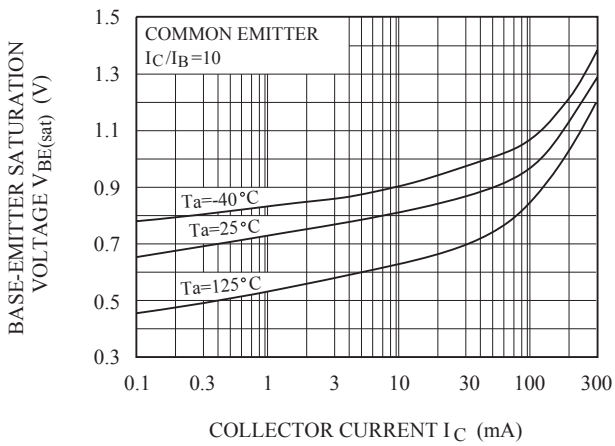
$h_{FE} - I_C$



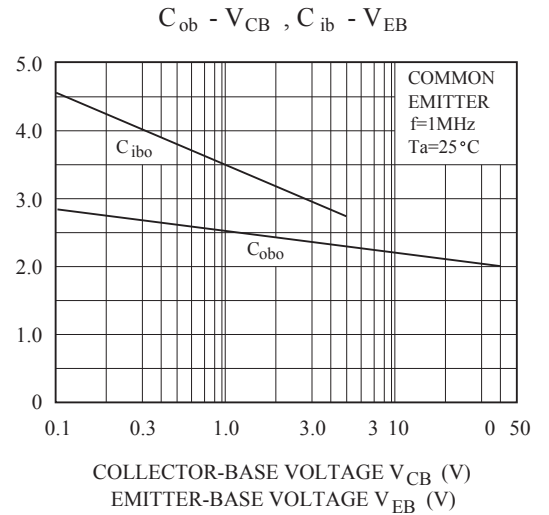
$V_{CE(sat)} - I_C$



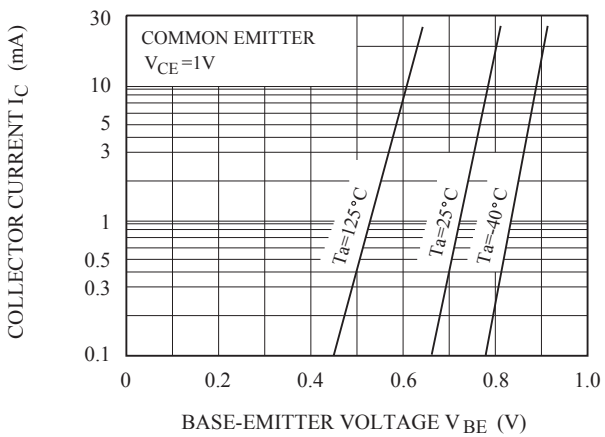
$V_{BE(sat)} - I_C$



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



$I_C - V_{BE}$



$P_C - T_a$

