

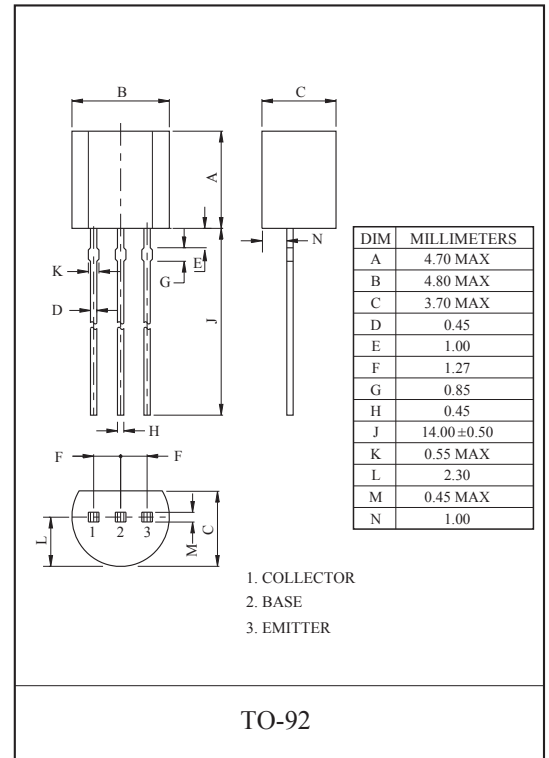
HIGH SPEED SWITCHING APPLICATION.

### 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	$^\circ\text{C}$

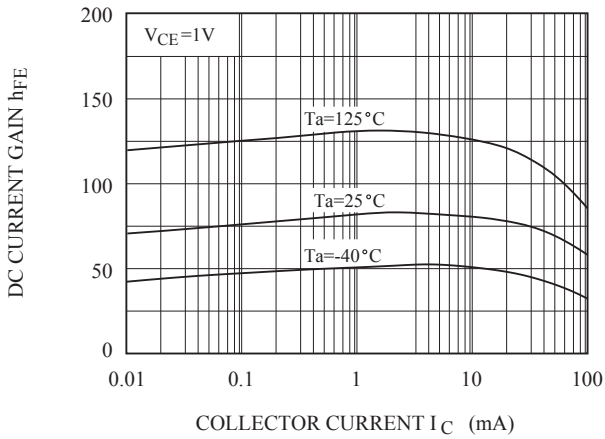


### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

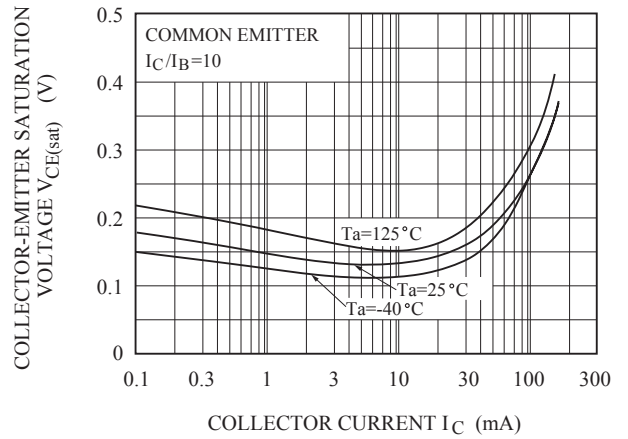
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=20\text{V}$ , $I_E=0$	-	-	0.4	$\mu\text{A}$
			$V_{CB}=20\text{V}$ , $I_E=0$ , $T_a=125^\circ\text{C}$	-	-	30	
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=10\mu\text{A}$ , $I_E=0$	40	-	-	V
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  $\leq 2.0\%$

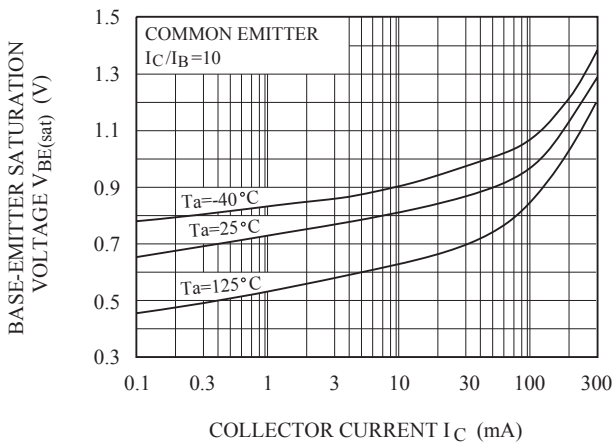
$h_{FE} - I_C$



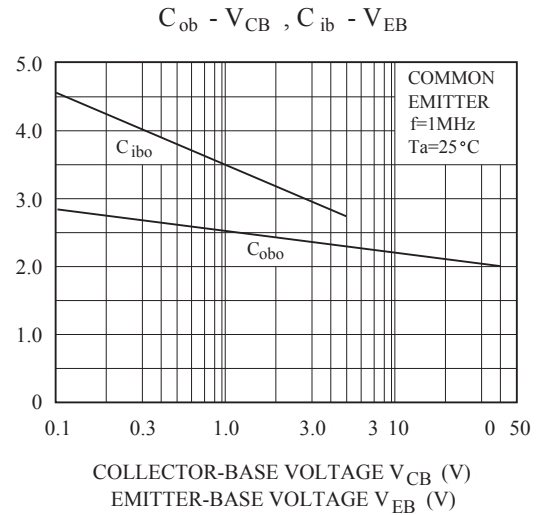
$V_{CE(sat)} - I_C$



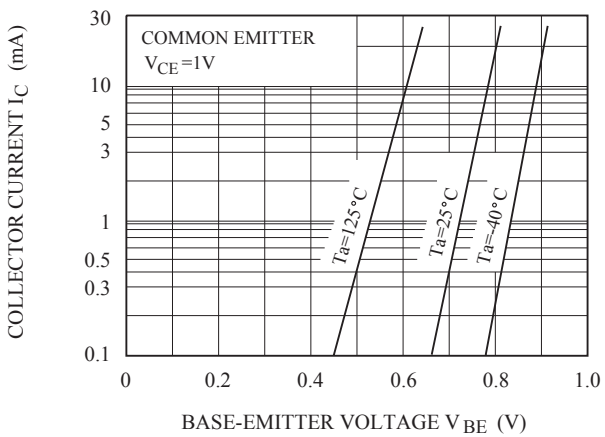
$V_{BE(sat)} - I_C$



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



$I_C - V_{BE}$



$P_C - T_a$

