KEC

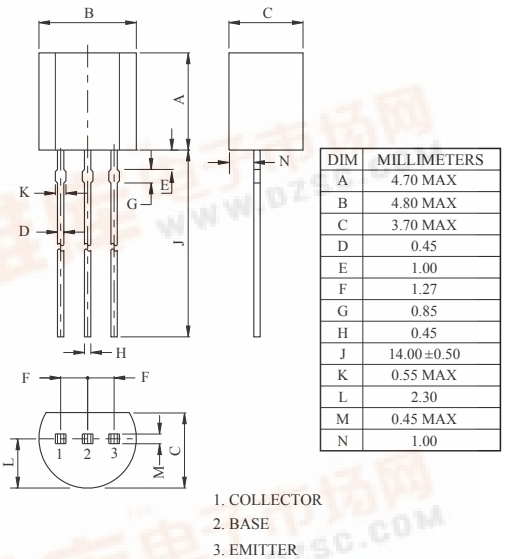
SEMICONDUCTOR
TECHNICAL DATA

KTH2369/A
EPITAXIAL PLANAR NPN TRANSISTOR

HIGH SPEED SWITCHING APPLICATION.

FEATURES

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



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

1. COLLECTOR
2. BASE
3. EMITTER

TO-92

MAXIMUM RATING (Ta=25℃)

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 (Ta=25℃)	P_C	625	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

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

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

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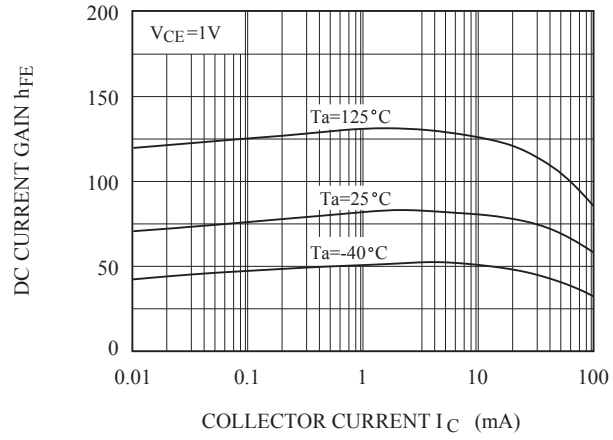
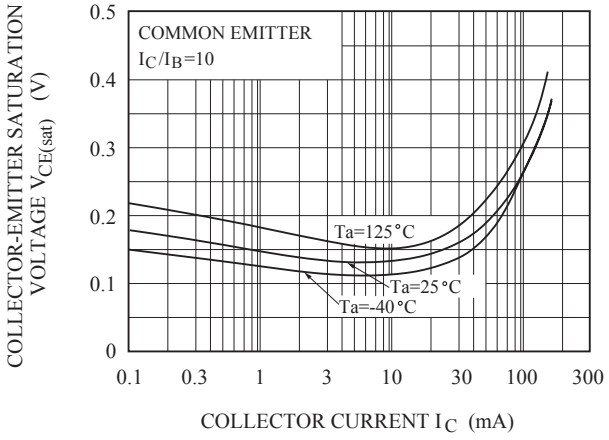
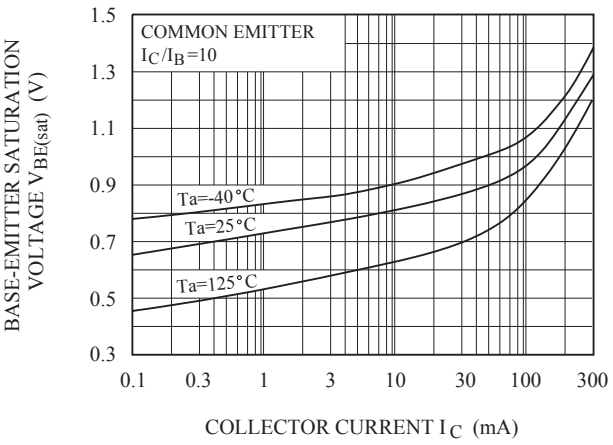
h_{FE} - I_C



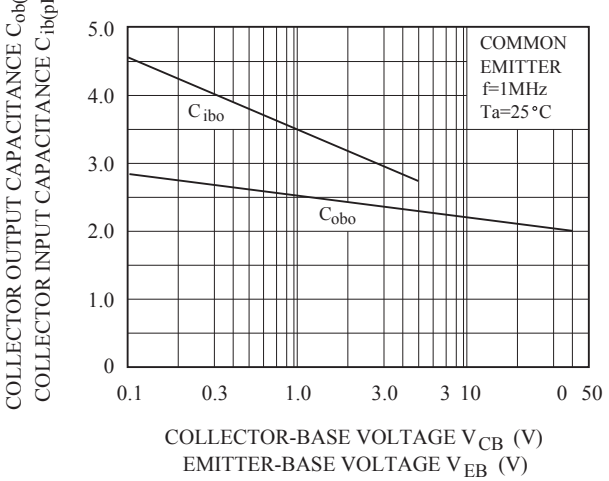
$V_{CE(sat)}$ - I_C



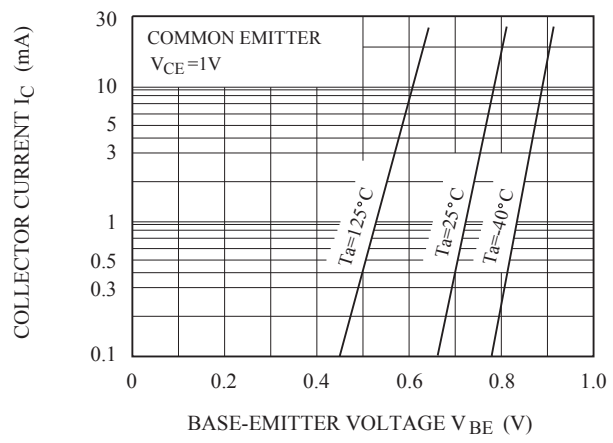
$V_{BE(sat)}$ - I_C



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



I_C - V_{BE}



P_C - Ta