KRA310E~KRA314E

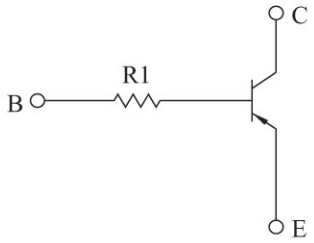
EPITAXIAL PLANAR PNP TRANSISTOR

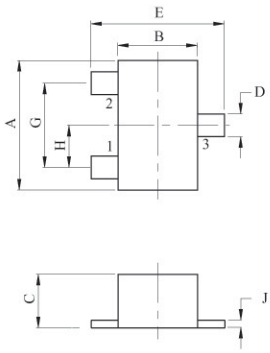
SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.

EQUIVALENT CIRCUIT





DIM	MILLIMETERS
A	1.60±0.10
B	0.85±0.10
C	0.70±0.10
D	0.27+0.10/-0.05
E	1.60±0.10
G	1.00±0.10
H	0.50
J	0.13±0.05

1. COMMON (EMITTER)
2. IN (BASE)
3. OUT (COLLECTOR)

ESM

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	S MBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA

CHARACTERISTIC	S MBOL	RATING	UNIT
Collector Po er Dissipation	P_C	100	mW
Junction Temperature	T	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

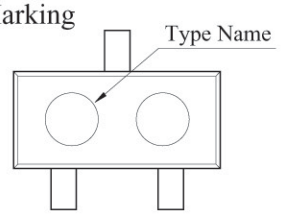
CHARACTERISTIC		S MBOL	TEST CONDITION	MIN.	T P .	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=-50V I_E=0	-	-	-100	nA
Emitter Cut-off Current		I_{EBO}	V_{EB}=-5V I_C=0	-	-	-100	nA
DC Current Gain		h_{FE}	V_{CE}=-5V I_C=-1mA	120	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=-10mA I_B=-0.5mA	-	-0.1	-0.3	V
Transition Fre uency		f_T	V_{CE}=-10V I_C=-5mA	-	250	-	MH
Input Resistor	KRA310E	R_1		3.2	4.7	6.11	kΩ
	KRA311E			7	10	13	
	KRA312E			70	100	130	
	KRA313E			15.4	22	28.6	
	KRA314E			32.	47	61.1	

Note : Characteristic of Transistor Only.

MARK SPEC

T PE	KRA310E	KRA311E	KRA312E	KRA313E	KRA314E
MARK	PK	PM	PN	PO	PP

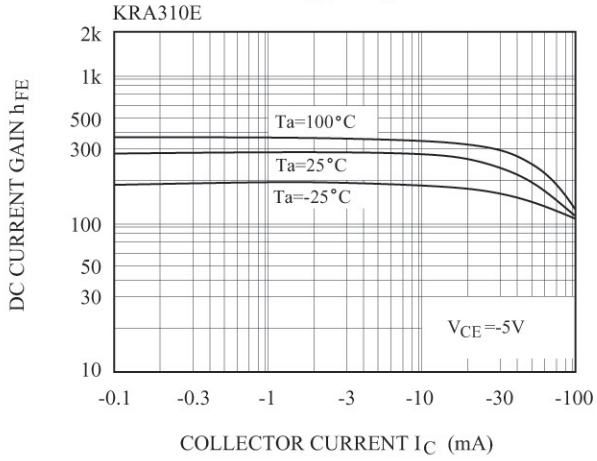
Marking



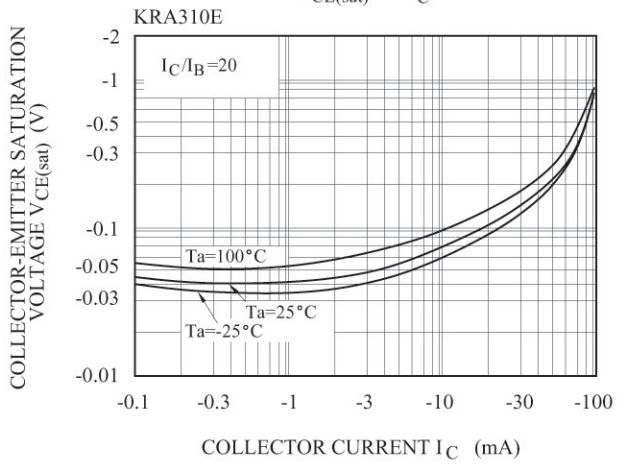
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switching Time	Rise Time	KRA310E	t_r	V_O=-5V V_{IN}=-5V R_L=1kΩ	-	0.2	-	μS
		KRA311E			-	0.065	-	
		KRA312E			-	0.4	-	
		KRA313E			-	0.1	-	
		KRA314E			-	0.15	-	
	Storage Time	KRA310E	t_{stg}		-	2.0	-	
		KRA311E			-	1.7	-	
		KRA312E			-	3.0	-	
		KRA313E			-	2.0	-	
		KRA314E			-	1.5	-	
	Fall Time	KRA310E	t_f		-	0.3	-	
		KRA311E			-	0.3	-	
		KRA312E			-	1.7	-	
		KRA313E			-	0.8	-	
		KRA314E			-	1.5	-	

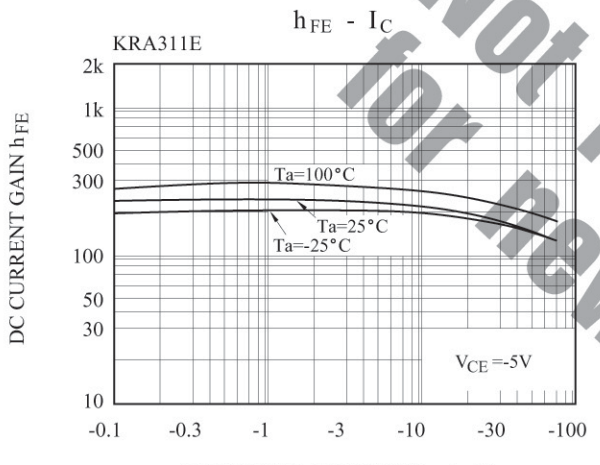
h_{FE} - I_C



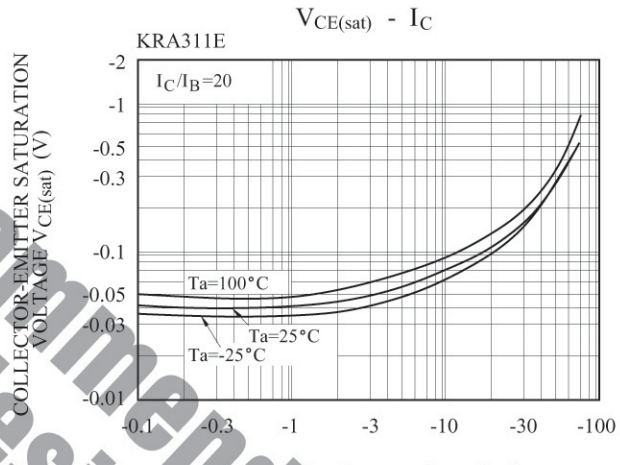
$V_{CE(sat)}$ - I_C



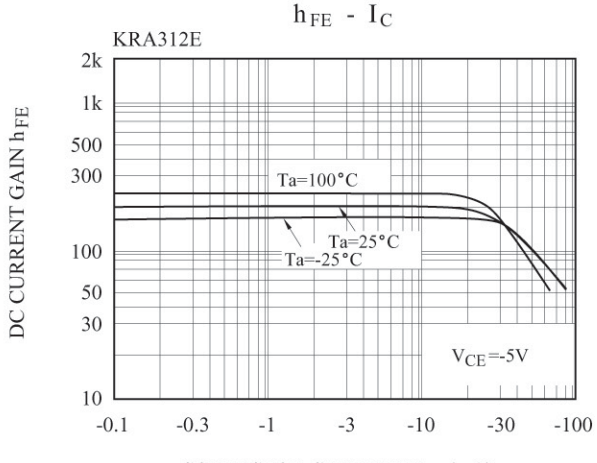
h_{FE} - I_C



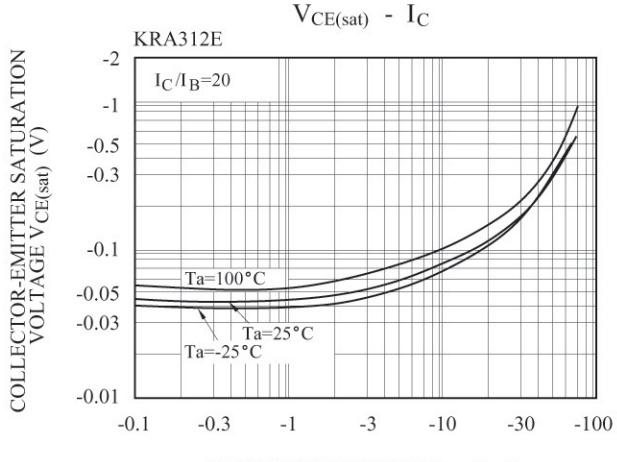
$V_{CE(sat)}$ - I_C



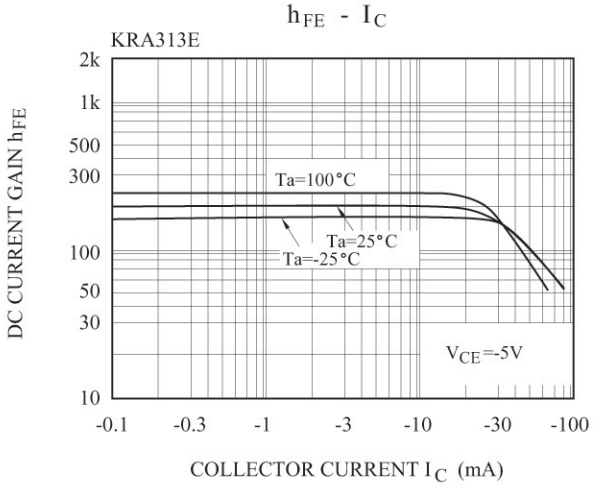
h_{FE} - I_C



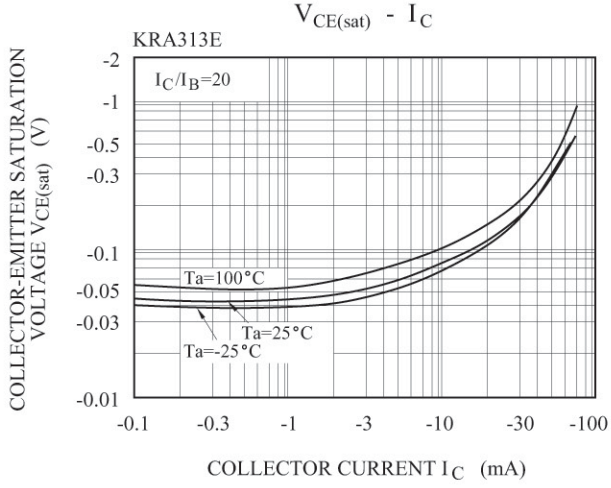
$V_{CE(sat)}$ - I_C



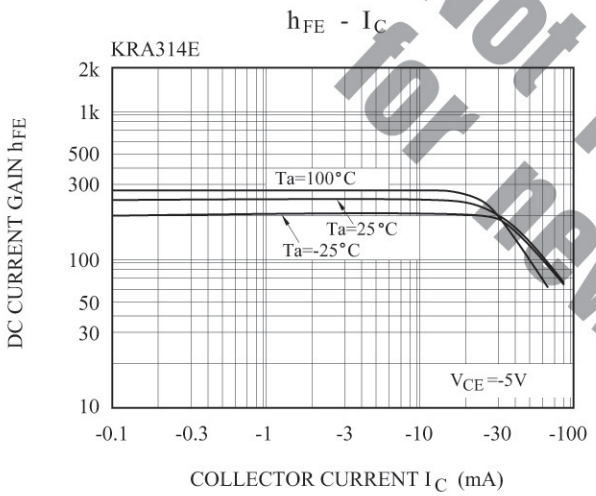
h_{FE} - I_C



$V_{CE(sat)}$ - I_C



h_{FE} - I_C



$V_{CE(sat)}$ - I_C