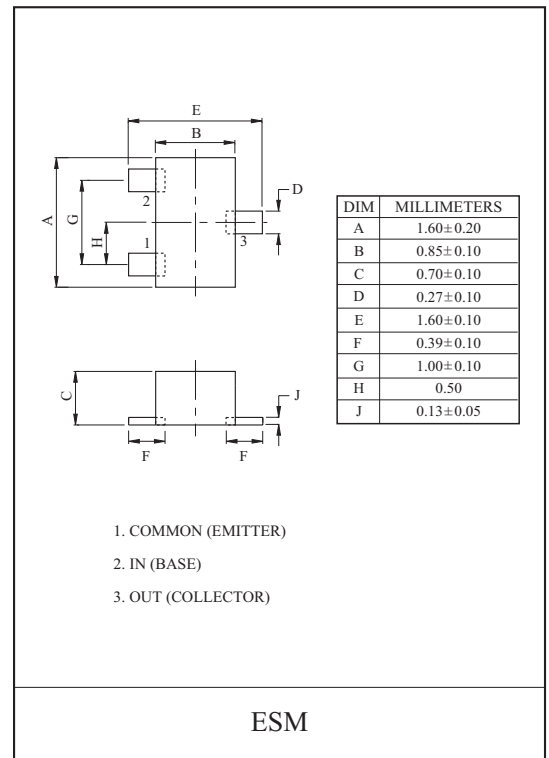
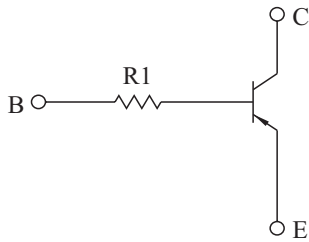


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.
- Suffix U : Qualified to AEC-Q101.
ex) KRA310E-RTK/HU

EQUIVALENT CIRCUIT



MAXIMUM RATING (Ta=25)

CHARACTERISTIC	SYMBOL	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	SYMBOL	RATING	UNIT
Collector Power Dissipation	P_C	100	mW
Junction Temperature	T_j	-55 150	
Storage Temperature Range	T_{stg}	-55 150	

ELECTRICAL CHARACTERISTICS (Ta=25)

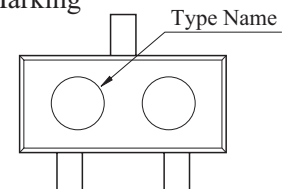
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=-50V, I_E=0$	-	-	-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=-5V, I_C=0$	-	-	-100	nA
DC Current Gain	h_{FE}	$V_{CE}=-5V, I_C=-1mA$	120	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10mA, I_B=-0.5mA$	-	-0.1	-0.3	V
Transition Frequency	f_T^*	$V_{CE}=-10V, I_C=-5mA$	-	250	-	MHz
Input Resistor	KRA310E	R_1	3.29	4.7	6.11	k
	KRA311E		7	10	13	
	KRA312E		70	100	130	
	KRA313E		15.4	22	28.6	
	KRA314E		32.9	47	61.1	

Note : * Characteristic of Transistor Only.

MARK SPEC

TYPE	KRA310E	KRA311E	KRA312E	KRA313E	KRA314E
MARK	PK	PM	PN	PO	PP

Marking

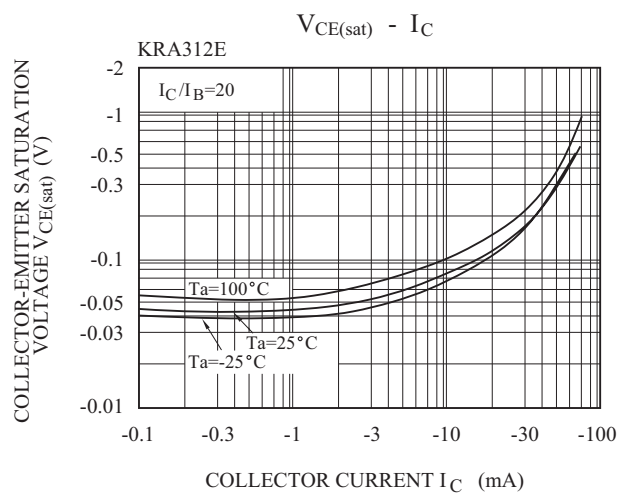
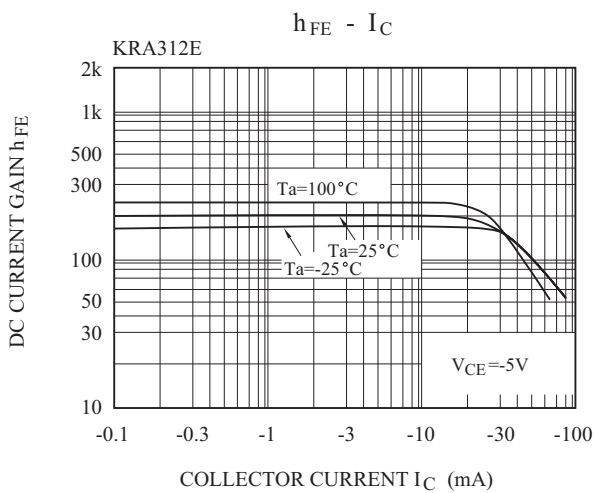
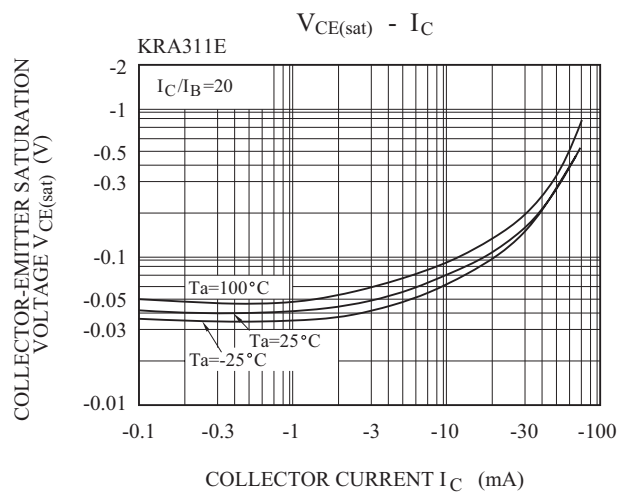
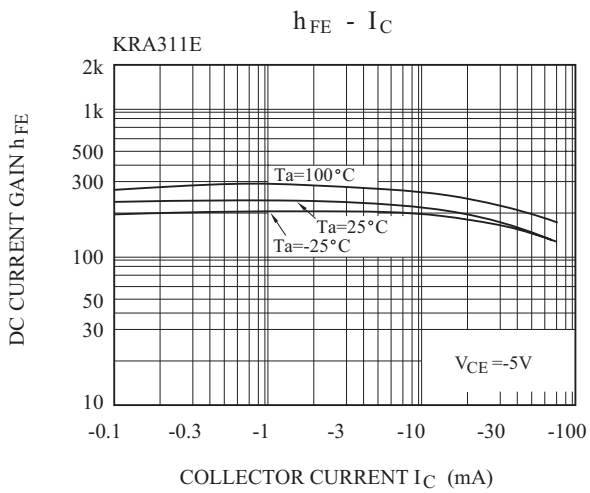
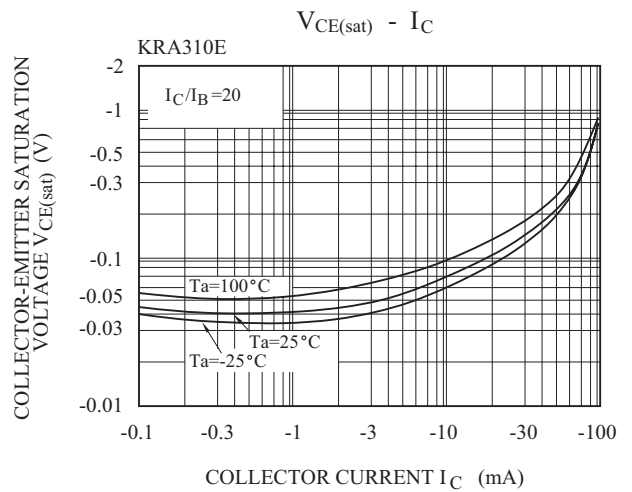
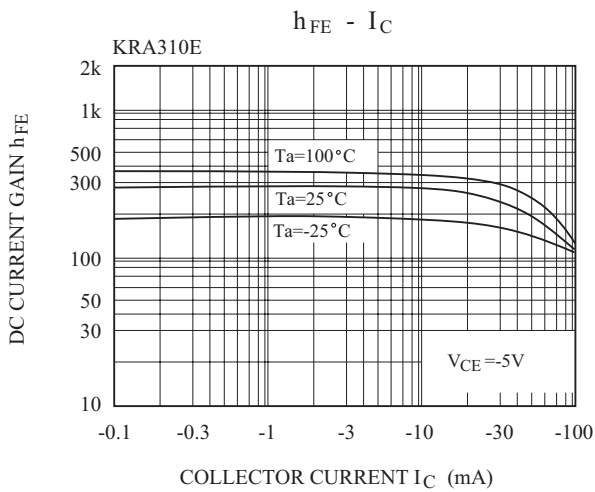


KRA310E~KRA314E

ELECTRICAL CHARACTERISTICS (Ta=25)

CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switching Time	Rise Time	KRA310E	t_r	$V_O=-5V$ $V_{IN}=-5V$ $R_L=1k$	-	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	-	

KRA310E~314E



KRA310E~314E

