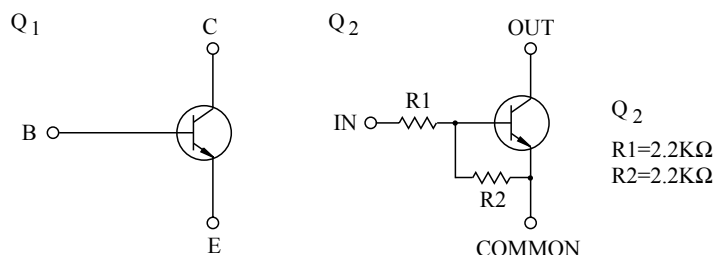


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

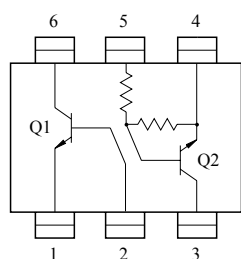
FEATURES

- Including two devices in US6.
(Ultra Super mini type with 6 leads.)
- With Built-in bias resistors.
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

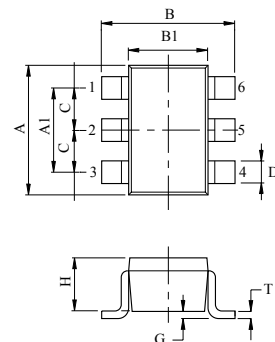
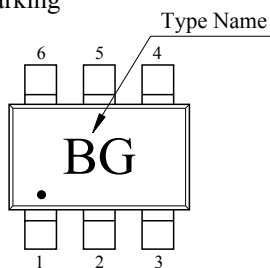
EQUIVALENT CIRCUIT



EQUIVALENT CIRCUIT (TOP VIEW)



Marking



DIM	MILLIMETERS
A	2.00±0.20
A1	1.3±0.1
B	2.1±0.1
B1	1.25±0.1
C	0.65
D	0.2+0.10/-0.05
G	0-0.1
H	0.9±0.1
T	0.15+0.1/-0.05

1. Q₁ (EMITTER)
2. Q₁ (BASE)
3. Q₂ OUT (COLLECTOR)
4. Q₂ COMMON (EMITTER)
5. Q₂ IN (BASE)
6. Q₁ (COLLECTOR)

US6

Q1 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	15	V
Collector-Emitter Voltage	V _{CEO}	12	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	500	mA
	I _{CP} *	1	A

* Single pulse Pw=1mS.

Q2 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V _O	50	V
Input Voltage	V _I	12, -10	V
Output Current	I _O	100	mA

Q1, Q2 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P _D *	200	mW
Junction Temperature	T _j	150	℃
Storage Temperature Range	T _{stg}	-55 ~ 150	℃

* Total Raing.

KRX212U

Q1 ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V, I_E=0$	-	-	100	nA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_E=10\mu A$	15	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA$	12	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A$	6	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=2V, I_C=10mA$	270	-	680	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=200mA, I_B=10mA$	-	90	250	mV
Transition Frequency	f_T	$V_{CE}=2V, I_C=10mA, f_T=100MHz$	-	320	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	7.5	-	pF

Q2 ELECTRICAL CHARACTERISTICS (Ta=25℃)

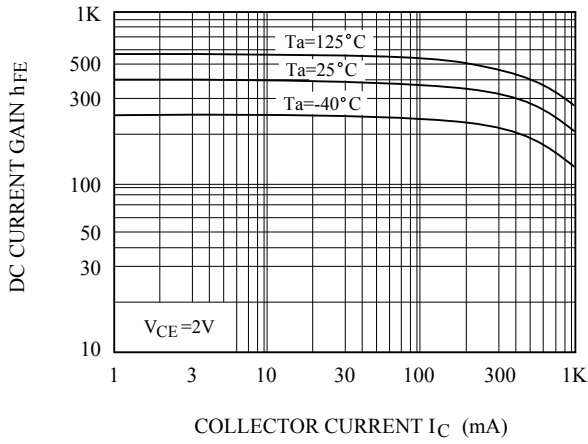
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Output Cut-off Current	$I_{O(OFF)}$	$V_O=50V, V_I=0$	-	-	500	nA
DC Current Gain	G_I	$V_O=5V, I_O=20mA$	20	-	-	
Output Voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O=0.3V, I_O=20mA$	-	1.83	3	V
Input Voltage (OFF)	$V_{I(OFF)}$	$V_O=5V, I_O=0.1mA$	0.5	1.15	-	V
Transition Frequency	f_T^*	$V_O=10V, I_O=5mA$	-	250	-	MHz
Input Current	I_I	$V_I=5V$	-	-	3.8	mA

Note : * Characteristic of Transistor Only.

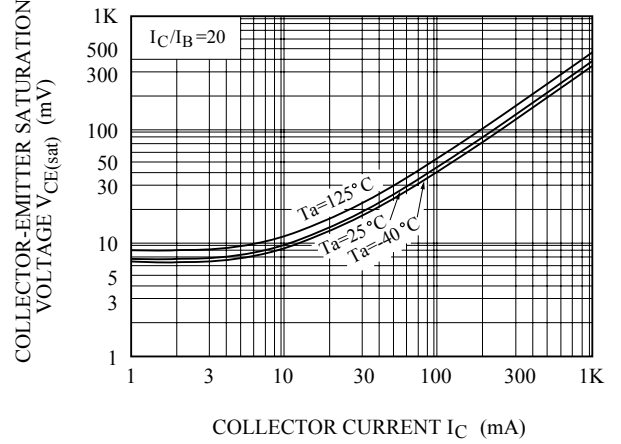
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Q₁ (NPN TRANSISTOR)

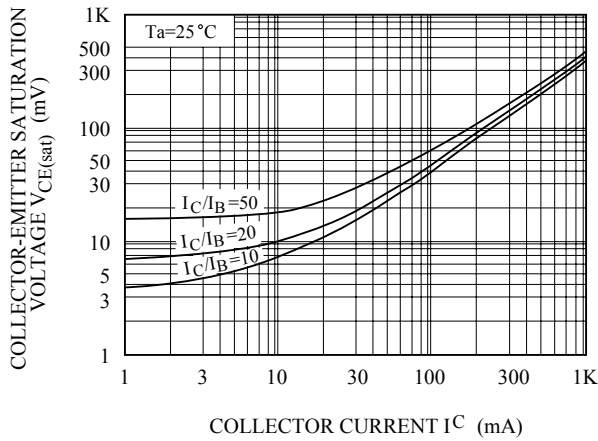
$h_{FE} - I_C$



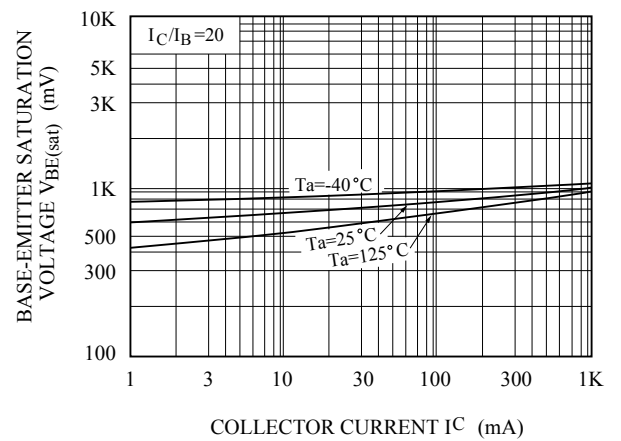
$V_{CE(sat)} - I_C$



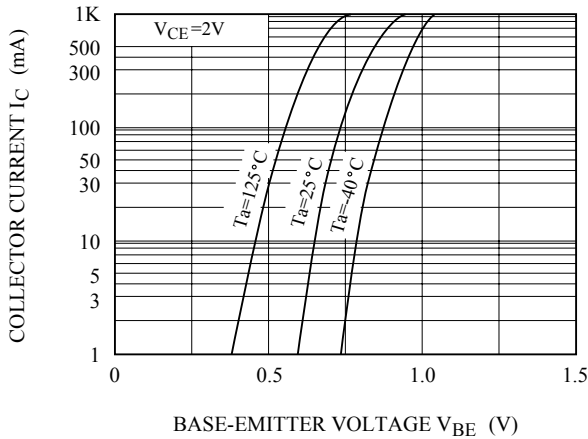
$V_{CE(sat)} - I_C$



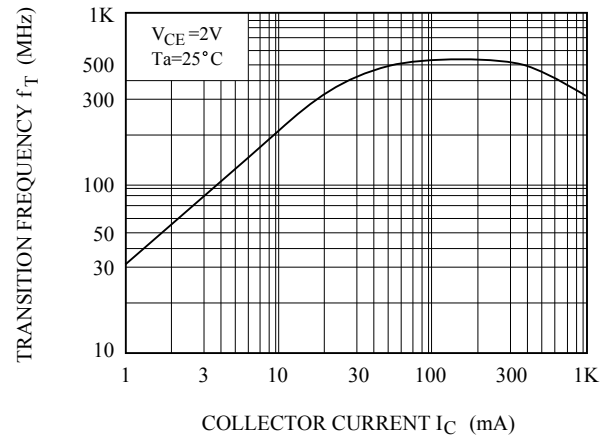
$V_{BE(sat)} - I_C$



$I_C - V_{BE}$



$f_T - I_C$



KRX212U

Q₁ (NPN TRANSISTOR)

