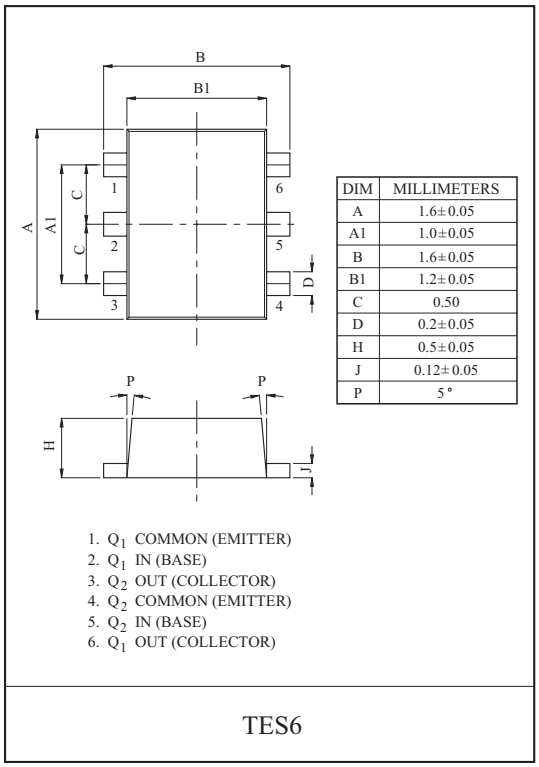
KRX210E

EPITAXIAL PLANAR NPN/PNP TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

- Including two devices in TES6.
- With Built-in bias resistors.
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

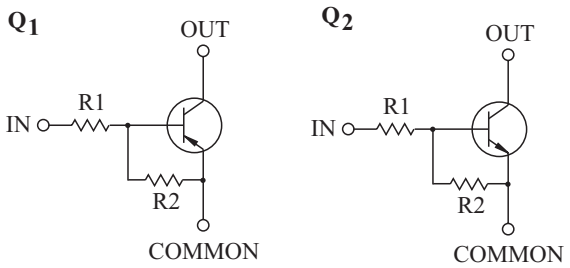


DIM	MILLIMETERS
A	1.6±0.05
A1	1.0±0.05
B	1.6±0.05
B1	1.2±0.05
C	0.50
D	0.2±0.05
H	0.5±0.05
J	0.12±0.05
P	5°

1. Q_1 COMMON (EMITTER)
2. Q_1 IN (BASE)
3. Q_2 OUT (COLLECTOR)
4. Q_2 COMMON (EMITTER)
5. Q_2 IN (BASE)
6. Q_1 OUT (COLLECTOR)

TES6

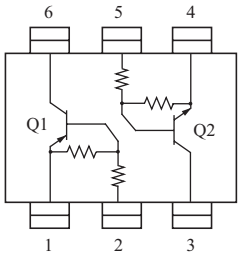
EQUIVALENT CIRCUIT



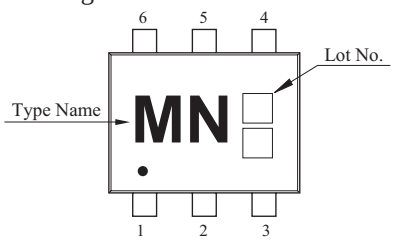
Q_1
R_1=1 KΩ
R_2=10 KΩ

Q_2
R_1=10 KΩ
R_2=10 KΩ

EQUIVALENT CIRCUIT (TOP VIEW)



Marking



Q1 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V_O	-30	V
Input Voltage	V_I	-30, 5	V
Output Current	I_O	-500	mA

Q2 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Output Voltage	V_O	50	V
Input Voltage	V_I	30, -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 Rating.

Q1 ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Output Cut-off Current	$I_{O(OFF)}$	V_O=-30V, V_I=0	-	-	-100	nA
DC Current Gain	G_I	V_O=-5V, I_O=-100㎃	140	-	-	
Output Voltage	$V_{O(ON)}$	I_O=-50㎃, I_I=-2.5㎃	-	-0.07	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	V_O=-0.3V, I_O=-20㎃	-	-	-2.5	V
Input Voltage (OFF)	$V_{I(OFF)}$	V_O=-5V, I_O=-0.1㎃	-0.3	-	-	V
Transition Frequency	f_T*	V_O=-10V, I_O=-5㎃, f=100㎒	-	260	-	㎒
Input Current	I_I	V_I=-5V	-	-	-6.4	㎃
Input resistance	R_1	-	0.7	1	1.3	㏀
Resistance Ratio	R_2/R_1	-	8	10	12	-

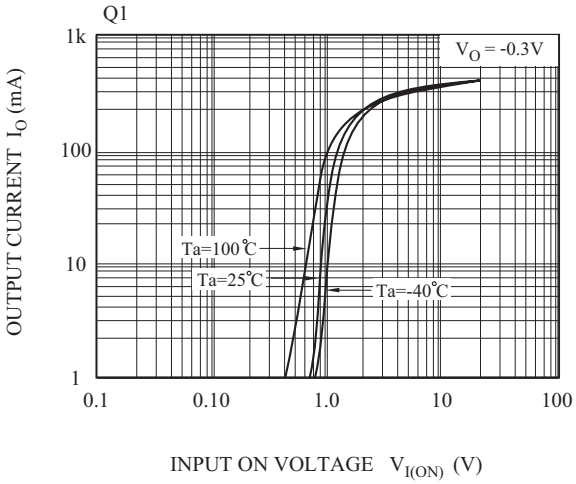
Note : * Characteristic of Transistor Only.

Q2 ELECTRICAL CHARACTERISTICS (Ta=25℃)

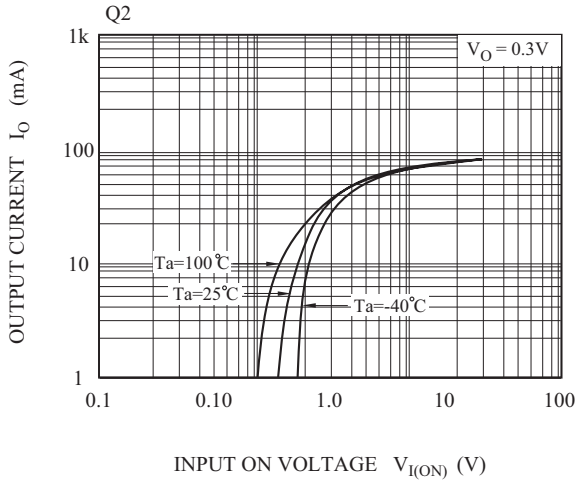
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Output Cut-off Current	$I_{O(OFF)}$	V_O=50V, V_I=0	-	-	500	nA
DC Current Gain	G_I	V_O=5V, I_O=10㎃	50	80	-	
Output Voltage	$V_{O(ON)}$	I_O=10㎃, I_I=0.5㎃	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	V_O=0.2V, I_O=5㎃	-	1.8	2.4	V
Input Voltage (OFF)	$V_{I(OFF)}$	V_O=5V, I_O=0.1㎃	1.0	1.2	-	V
Transition Frequency	f_T*	V_O=10V, I_O=5㎃	-	200	-	㎒
Input Current	I_I	V_I=5V	-	-	0.88	㎃
Input resistance	R_1	-	7	10	13	㏀
Resistance Ratio	R_2/R_1	-	0.8	1	1.2	-

Note : * Characteristic of Transistor Only.

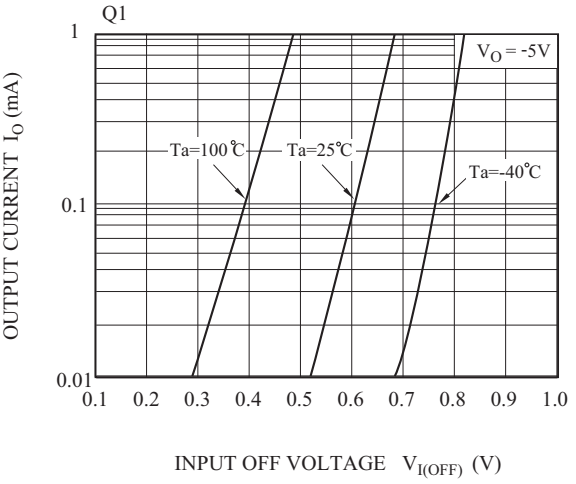
I_O - $V_{I(ON)}$



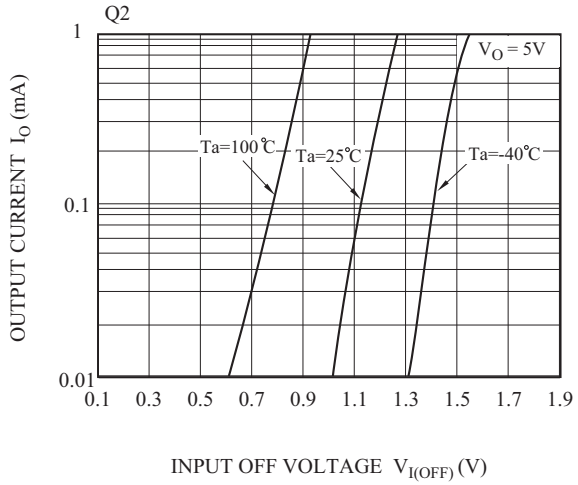
I_O - $V_{I(ON)}$



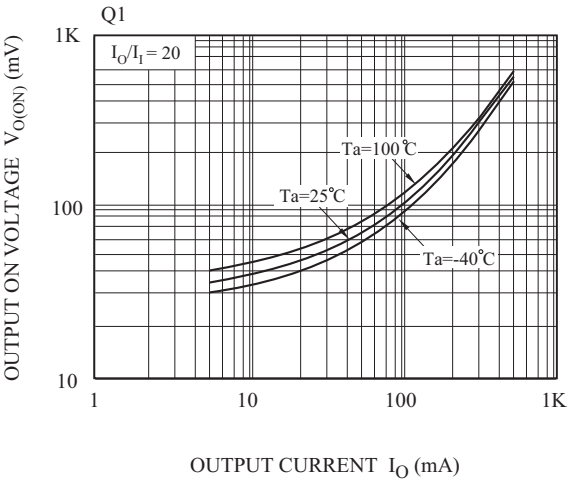
I_O - $V_{I(OFF)}$



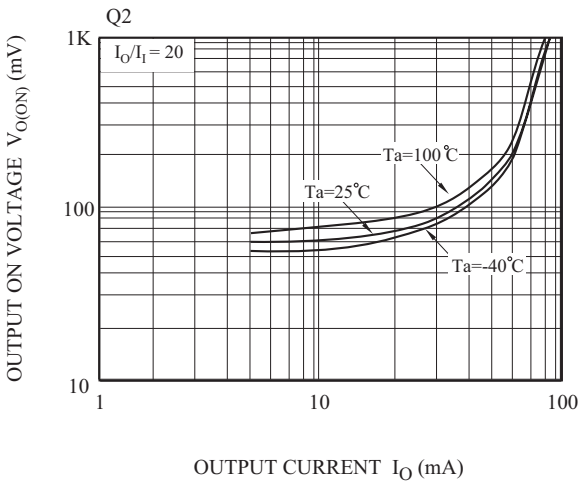
I_O - $V_{I(OFF)}$



$V_{O(ON)}$ - I_O

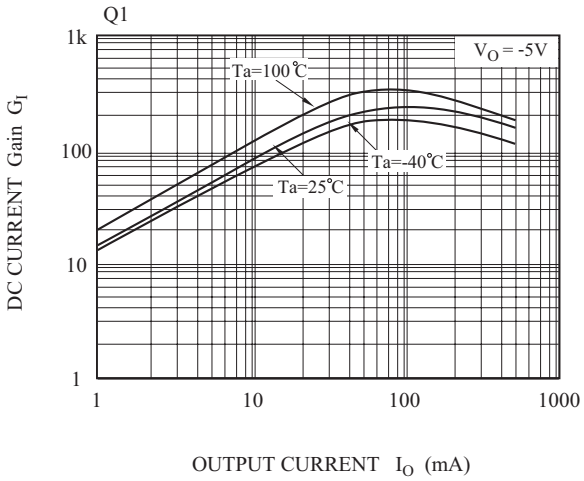


$V_{O(ON)}$ - I_O



G_I - I_O

Q1



G_I - I_O

Q2