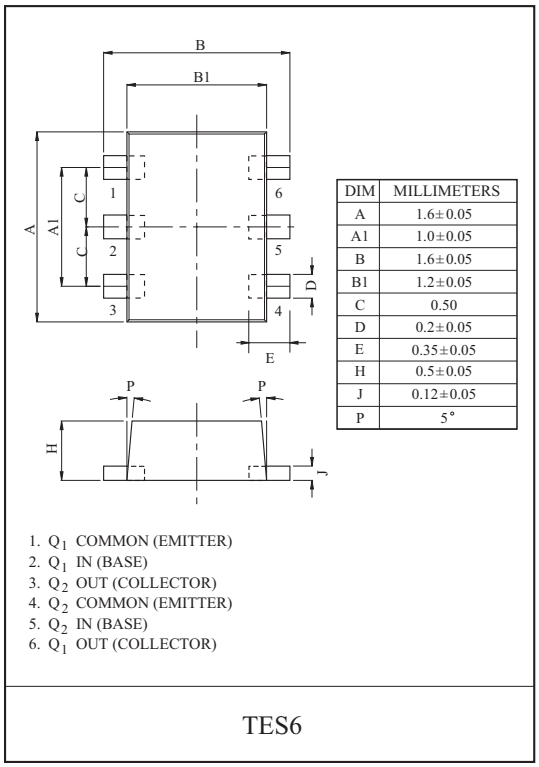
KRC851E~KRC856E

EPITAXIAL PLANAR NPN 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.
- Suffix **U** : Qualified to AEC-Q101.
  ex) KRC854E-RTK/H**U**

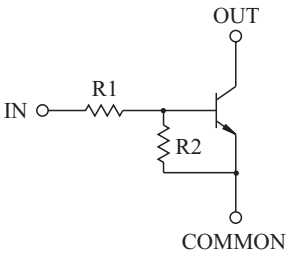


DIM	MILLIMETERS
A	1.6±0.05
A1	1.0±0.05
B	1.6±0.05
B1	1.2±0.05
C	0.50
D	0.2±0.05
E	0.35±0.05
H	0.5±0.05
J	0.12±0.05
P	5°

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

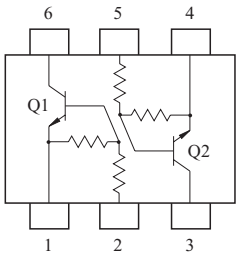
EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC851E	4.7	4.7
KRC852E	10	10
KRC853E	22	22
KRC854E	47	47
KRC855E	2.2	47
KRC856E	4.7	47

EQUIVALENT CIRCUIT (TOP VIEW)

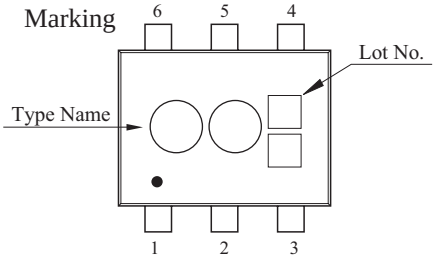


MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC851E 856E	V_O	50	V
Input Voltage	KRC851E	V_I	20, -10	V
	KRC852E		30, -10	
	KRC853E		40, -10	
	KRC854E		40, -10	
	KRC855E		12, -5	
	KRC856E		20, -5	
Output Current	KRC851E 856E	I_O	100	mA
Power Dissipation		P_D*	200	mW
Junction Temperature		T_j	-55~150	℃
Storage Temperature Range		T_{stg}	-55 150	℃

* Total Rating.

Marking



MARK SPEC

TYPE	KRC851E	KRC852E	KRC853E	KRC854E	KRC855E	KRC856E
MARK	NA	NB	NC	ND	NE	NF

ELECTRICAL CHARACTERISTICS (Ta=25℃)

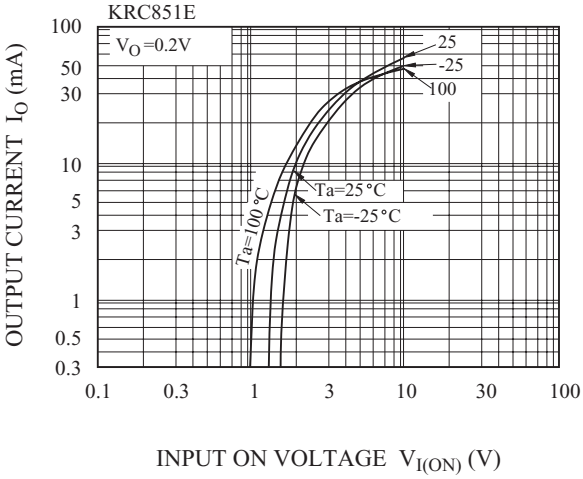
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRC851E 856E	$I_{O(OFF)}$	V_O=50V, V_I=0	-	-	500	nA
DC Current Gain	KRC851E	G_I	V_O=5V, I_O=10mA	30	55	-	
	KRC852E			50	80	-	
	KRC853E			70	120	-	
	KRC854E			80	200	-	
	KRC855E			80	200	-	
	KRC856E			80	200	-	
Output Voltage	KRC851E 856E	$V_{O(ON)}$	I_O=10mA, I_I=0.5mA	-	0.1	0.3	V
Input Voltage (ON)	KRC851E	$V_{I(ON)}$	V_O=0.2V, I_O=5mA	-	1.5	2.0	V
	KRC852E			-	1.8	2.4	
	KRC853E			-	2.1	3.0	
	KRC854E			-	2.8	5.0	
	KRC855E			-	0.8	1.1	
	KRC856E			-	0.9	1.3	
Input Votlage (OFF)	KRC851E 854E	$V_{I(OFF)}$	V_O=5V, I_O=0.1mA	1.0	1.2	-	V
	KRC855E 856E			0.5	0.65	-	
Transition Frequency	KRC851E 856E	f_T *	V_O=10V, I_O=5mA	-	200	-	MHz
Input Current	KRC851E	I_I	V_I=5V	-	-	1.8	mA
	KRC852E			-	-	0.88	
	KRC853E			-	-	0.36	
	KRC854E			-	-	0.18	
	KRC855E			-	-	3.6	
	KRC856E			-	-	1.8	
Input Resistor	KRC851E	R1	-	3.29	4.7	6.11	kΩ
	KRC852E			7	10	13	
	KRC853E			15.4	22	28.6	
	KRC854E			32.9	47	61.1	
	KRC855E			1.54	2.2	2.86	
	KRC856E			3.29	4.7	6.11	
Resistor Ratio	KRC851E 854E	R2/R1	-	0.8	1.0	1.2	
	KRC855E			17	21	26	
	KRC856E			8	10	12	

Note : * Characteristic of Transistor Only.

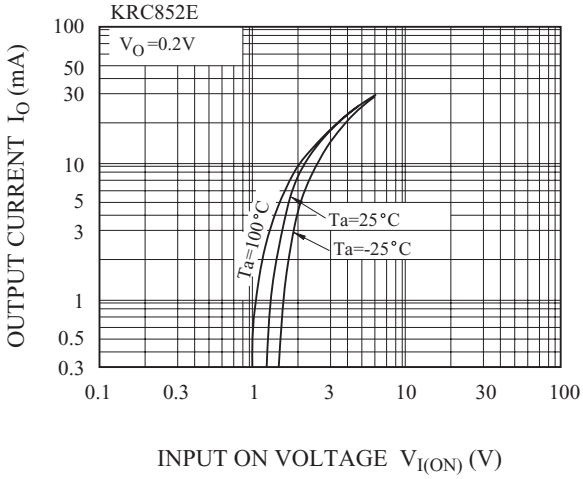
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switching Time	Rise Time	KRC851E	t_r	V_O=5V V_{IN}=5V R_L=1kΩ	-	0.03	-	μs
		KRC852E			-	0.05	-	
		KRC853E			-	0.12	-	
		KRC854E			-	0.22	-	
		KRC855E			-	0.01	-	
		KRC856E			-	0.03	-	
	Storage Time	KRC851E	t_{stg}		-	2.0	-	
		KRC852E			-	2.0	-	
		KRC853E			-	2.0	-	
		KRC854E			-	2.0	-	
		KRC855E			-	2.0	-	
		KRC856E			-	2.0	-	
	Fall Time	KRC851E	t_f		-	0.12	-	
		KRC852E			-	0.36	-	
		KRC853E			-	0.35	-	
		KRC854E			-	0.6	-	
		KRC855E			-	0.1	-	
		KRC856E			-	0.19	-	

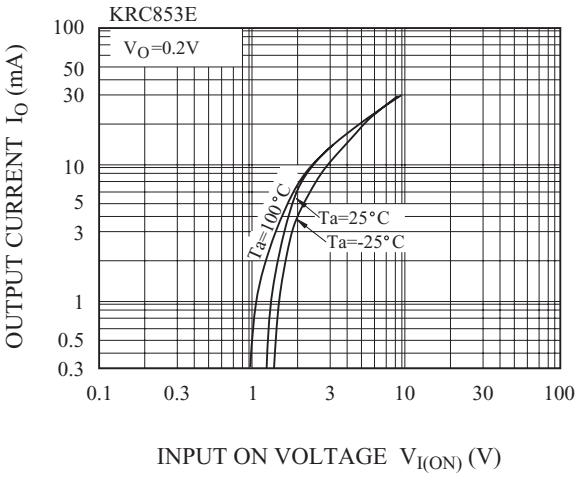
I_O - $V_{I(ON)}$



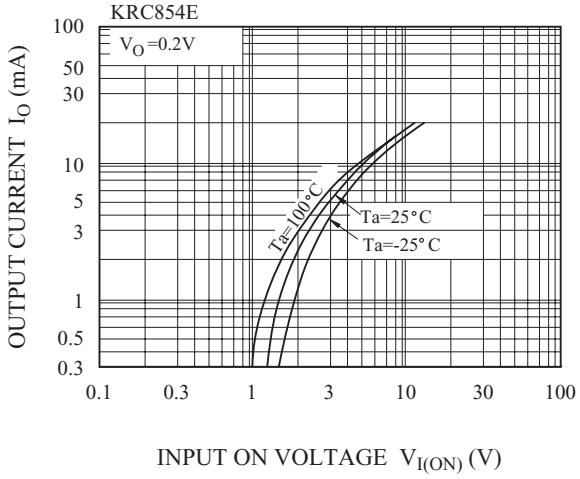
I_O - $V_{I(ON)}$



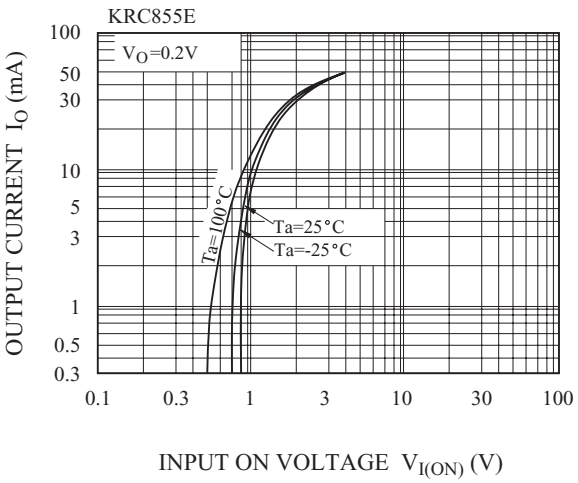
I_O - $V_{I(ON)}$



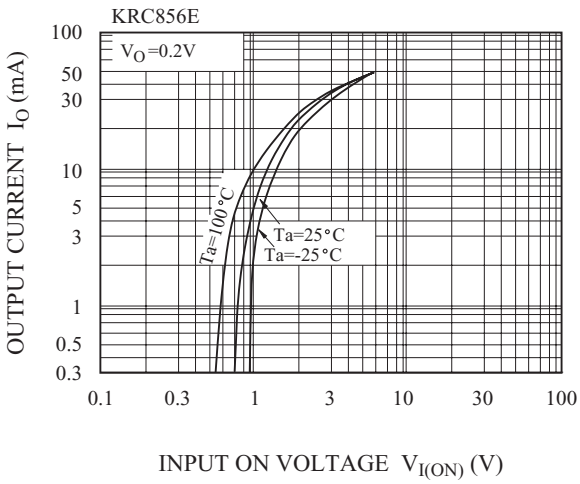
I_O - $V_{I(ON)}$



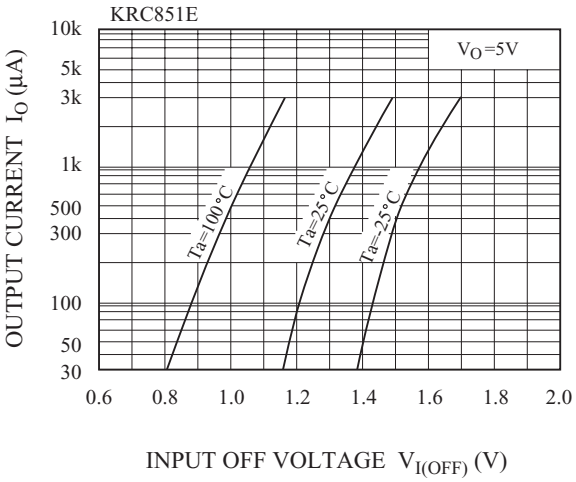
I_O - $V_{I(ON)}$



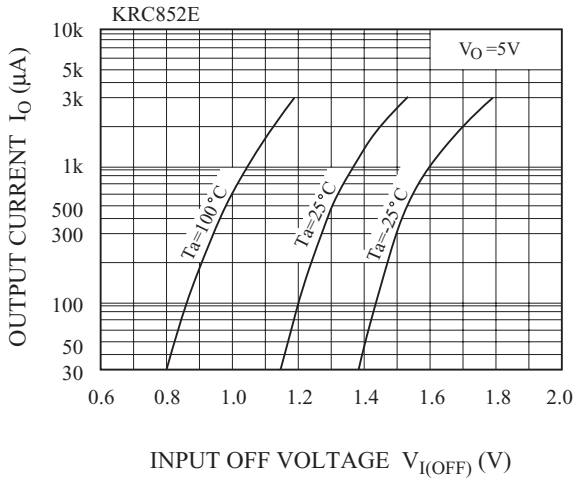
I_O - $V_{I(ON)}$



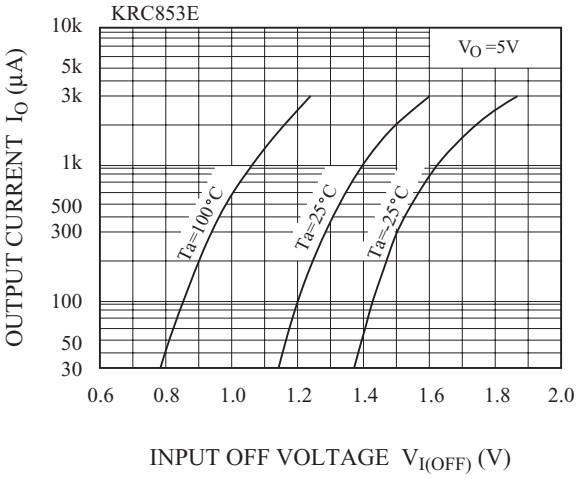
I_O - $V_{I(OFF)}$



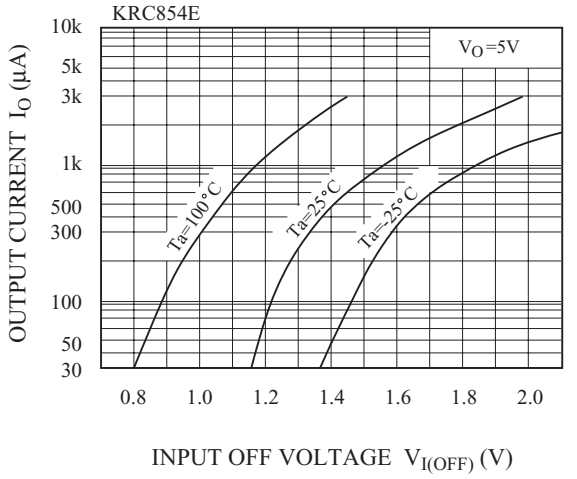
I_O - $V_{I(OFF)}$



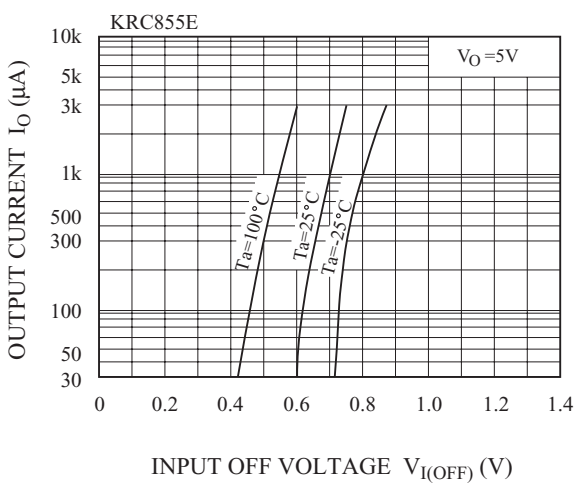
I_O - $V_{I(OFF)}$



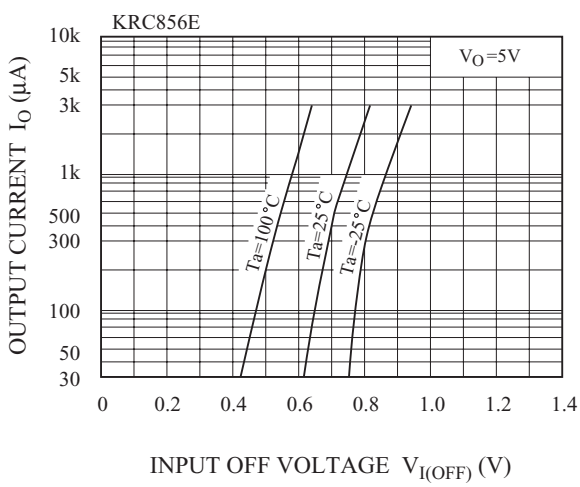
I_O - $V_{I(OFF)}$



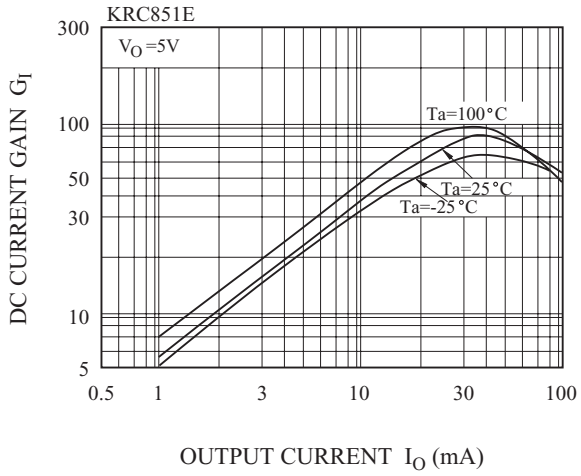
I_O - $V_{I(OFF)}$



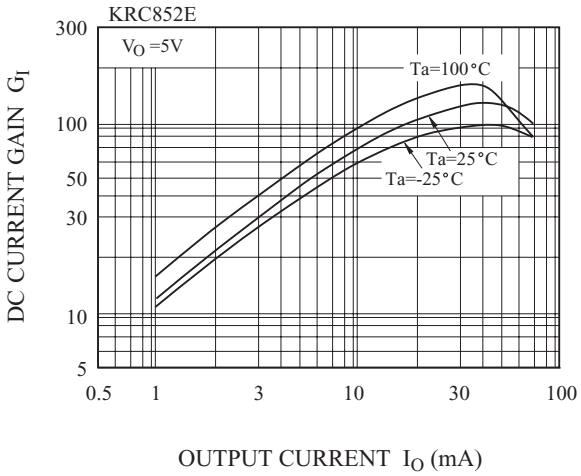
I_O - $V_{I(OFF)}$



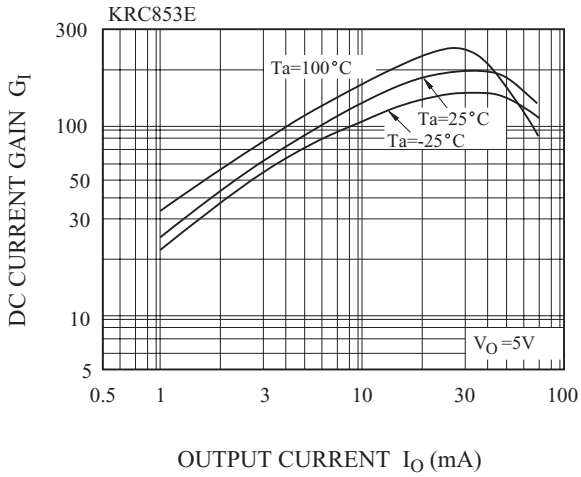
G_I - I_O



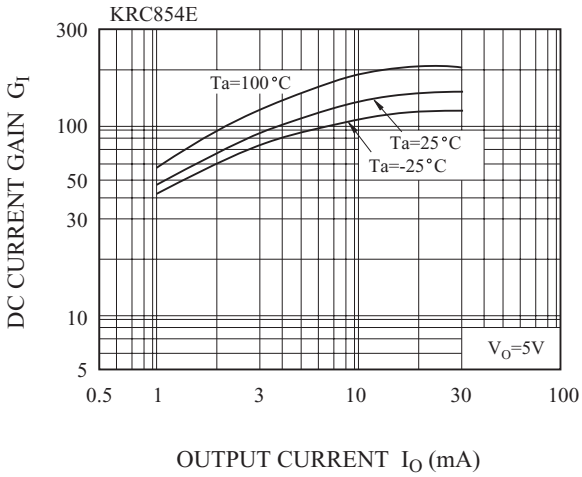
G_I - I_O



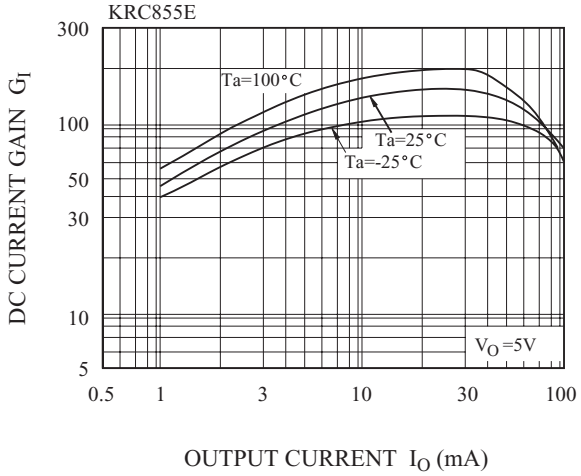
G_I - I_O



G_I - I_O



G_I - I_O



G_I - I_O