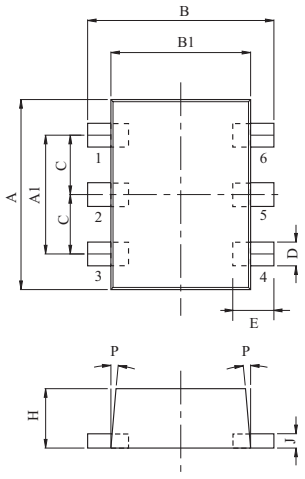
KRC857E~KRC859E

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) KRC857E-RTK/H**U**

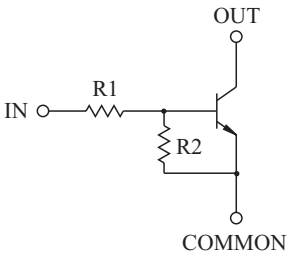


DIM	MILLIMETERS
A	1.6±0.05
A1	1.0±0.05
B	1.6±0.05
B1	1.2±0.05
C	0.50
D	0.2±0.05
E	0.35±0.05
H	0.5±0.05
J	0.12±0.05
P	5°

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

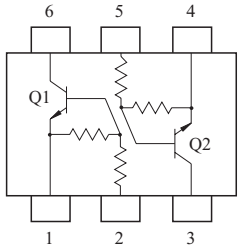
EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC857E	10	47
KRC858E	22	47
KRC859E	47	22

EQUIVALENT CIRCUIT (TOP VIEW)

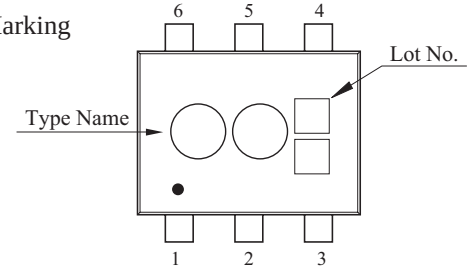


MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC857E～859E	V_O	50	V
Input Voltage	KRC857E	V_I	30, -6	V
	KRC858E		40, -7	
	KRC859E		40,-15	
Output Current	KRC857E～859E	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

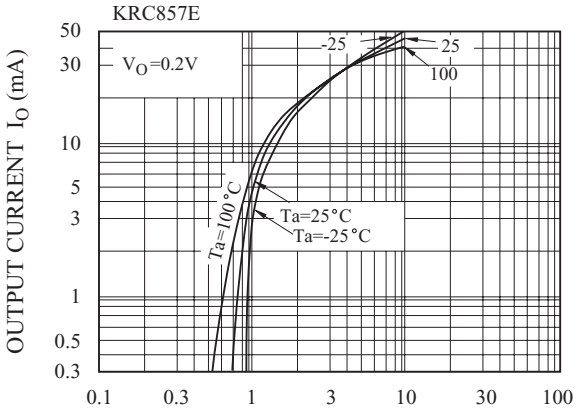
TYPE	KRC857E	KRC858E	KRC859E
MARK	NH	NI	NJ

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current		KRC857E ~859E	$I_{O(OFF)}$	V_O=50V, V_I=0	-	-	500	nA
DC Current Gain		KRC857E	G_I	V_O=5V, I_O=10mA	80	150	-	
		KRC858E			80	150	-	
		KRC859E			70	140	-	
Output Voltage		KRC857E ~859E	$V_{O(ON)}$	I_O=10mA, I_I=0.5mA	-	0.1	0.3	V
Input Voltage (ON)		KRC857E	$V_{I(ON)}$	V_O=0.2V, I_O=5mA	-	1.2	1.8	V
		KRC858E			-	1.8	2.6	
		KRC859E			-	3.0	5.8	
Input Votlage (OFF)		KRC857E	$V_{I(OFF)}$	V_O=5V, I_O=0.1mA	0.5	0.75	-	V
		KRC858E			0.6	0.88	-	
		KRC859E			1.5	1.82	-	
Transition Frequency		KRC857E ~859E	f_T *	V_O=10V, I_O=5mA	-	200	-	MHz
Input Current		KRC857E	I_I	V_I=5V	-	-	0.88	mA
		KRC858E			-	-	0.36	
		KRC859E			-	-	0.16	
Switching Time	Rise Time	KRC857E	t_r	V_O=5V, V_{IN}=5V R_L=1k Ω	-	0.05	-	μs
		KRC858E			-	0.12	-	
		KRC859E			-	0.26	-	
	Storage Time	KRC857E	t_{stg}		-	2.0	-	
		KRC858E			-	2.4	-	
		KRC859E			-	1.5	-	
	Fall Time	KRC857E	t_f		-	0.36	-	
		KRC858E			-	0.4	-	
		KRC859E			-	0.41	-	
Input Resistor		KRC857E	R1	-	7	10	13	kΩ
		KRC858E			15.4	22	28.6	
		KRC859E			32.9	47	61.1	
Resistor Ratio		KRC857E	R2/R1	-	3.7	4.7	5.7	
		KRC858E			1.7	2.1	2.6	
		KRC859E			0.37	0.47	0.57	

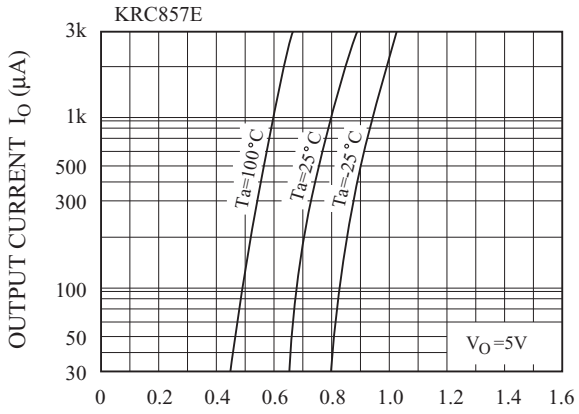
Note : * Characteristic of Transistor Only.

I_O - $V_{I(ON)}$



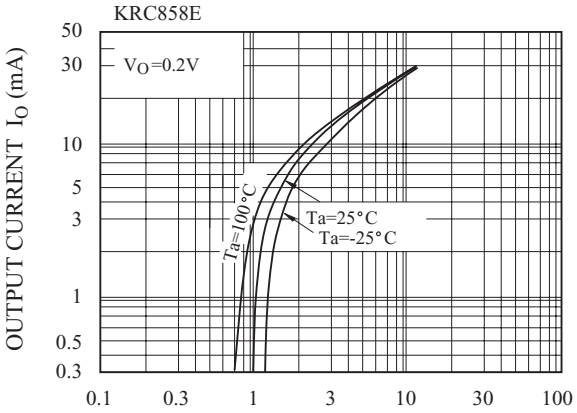
INPUT ON VOLTAGE $V_{I(ON)}$ (V)

I_O - $V_{I(OFF)}$



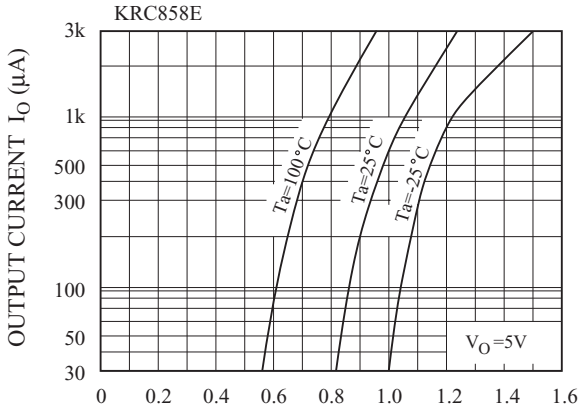
INPUT OFF VOLTAGE $V_{I(OFF)}$ (V)

I_O - $V_{I(ON)}$



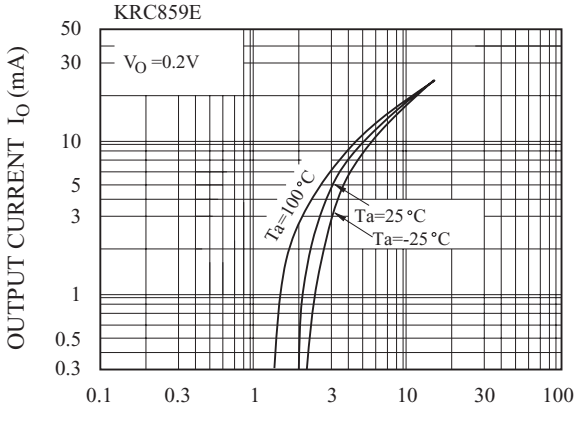
INPUT ON VOLTAGE $V_{I(ON)}$ (V)

I_O - $V_{I(OFF)}$



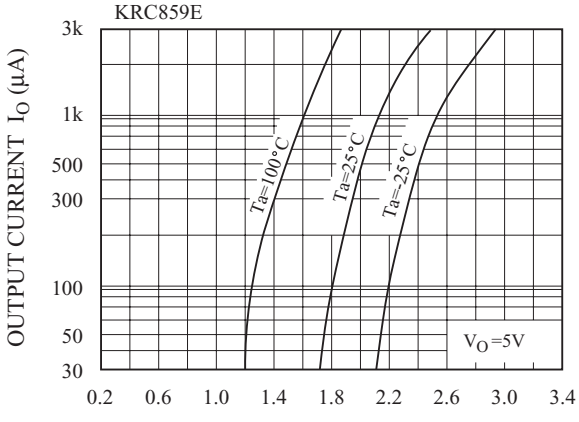
INPUT OFF VOLTAGE $V_{I(OFF)}$ (V)

I_O - $V_{I(ON)}$



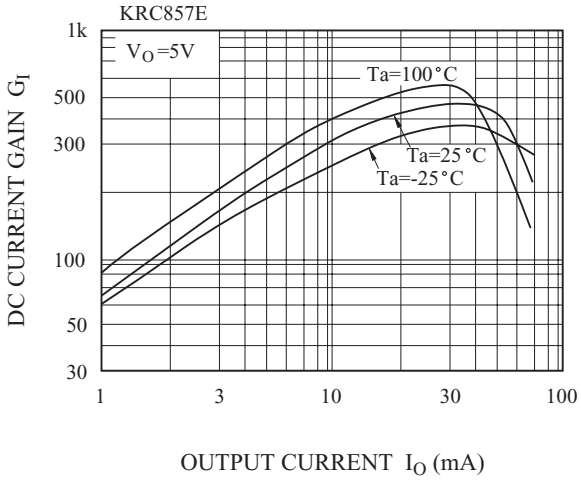
INPUT ON VOLTAGE $V_{I(ON)}$ (V)

I_O - $V_{I(OFF)}$

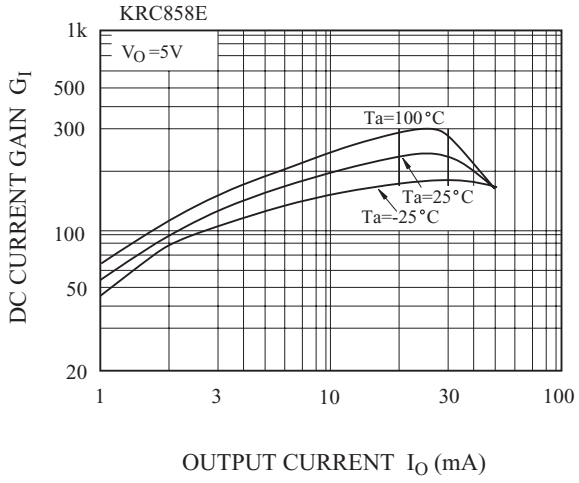


INPUT OFF VOLTAGE $V_{I(OFF)}$ (V)

G_I - I_O



G_I - I_O



G_I - I_O