

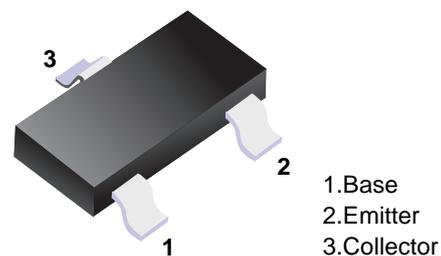
■ NPN Silicon Epitaxial Planar Transistor

■ Features

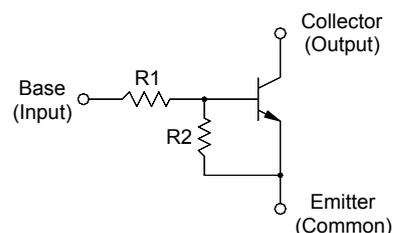
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

■ Applications

- for switching and interface circuit and drive circuit



■ Simplified outline(SOT-23)



■ Resistor Values

Type	R1 (K Ω)	R2 (K Ω)
KRC101S	4.7	4.7
KRC102S	10	10
KRC103S	22	22
KRC104S	47	47
KRC105S	2.2	47
KRC106S	4.7	47

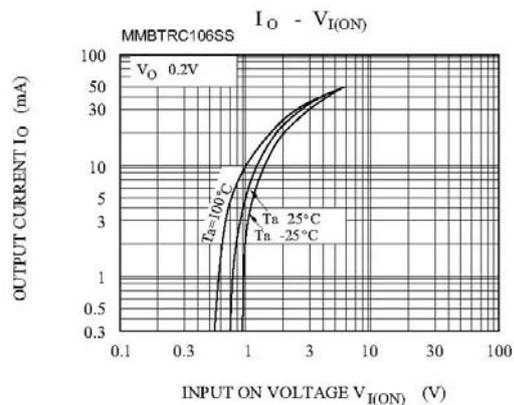
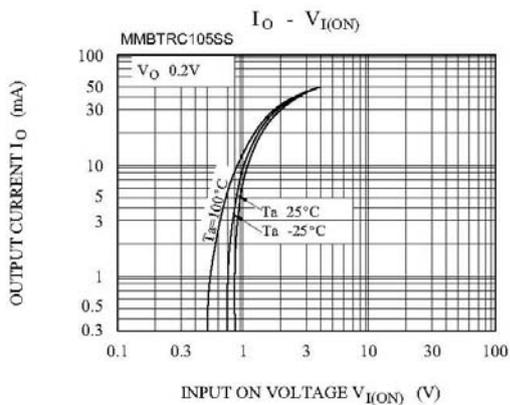
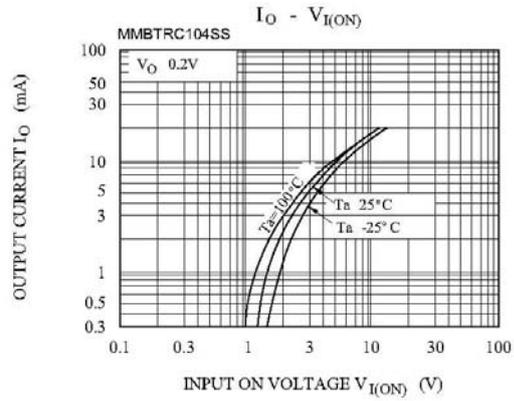
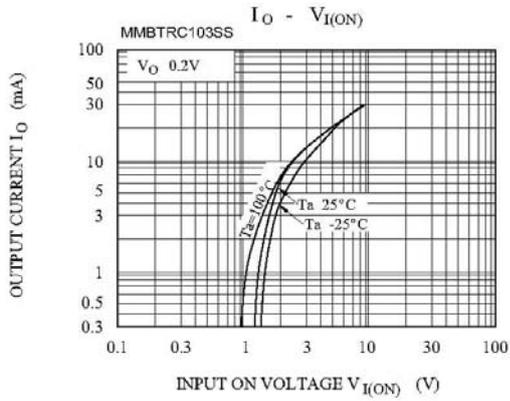
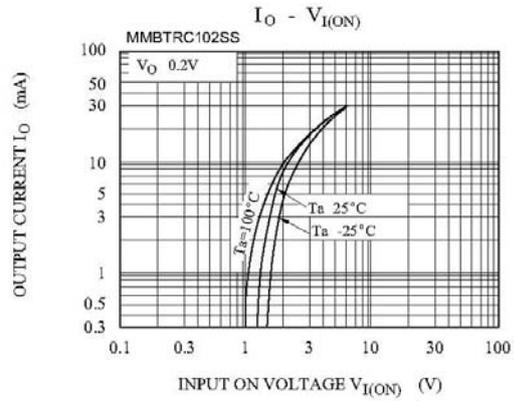
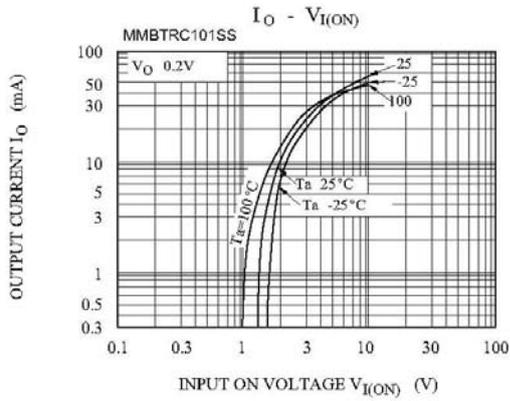
■ Absolute Maximum Ratings Ta = 25°C

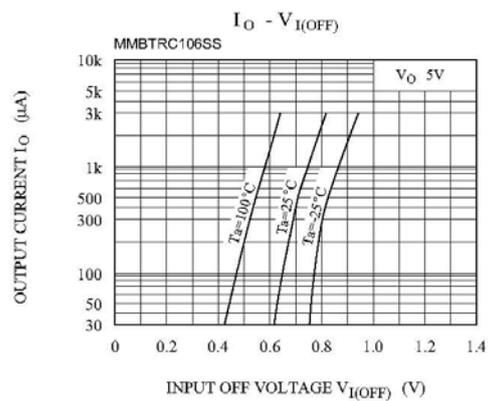
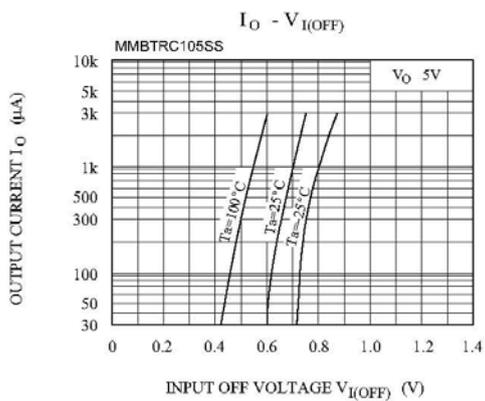
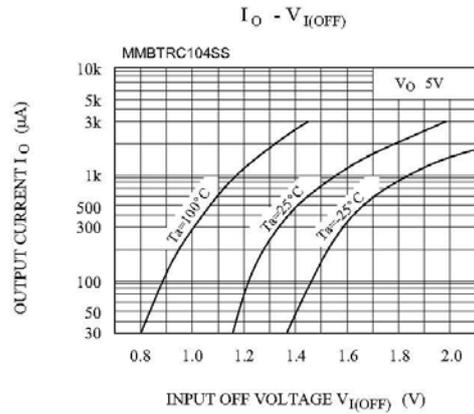
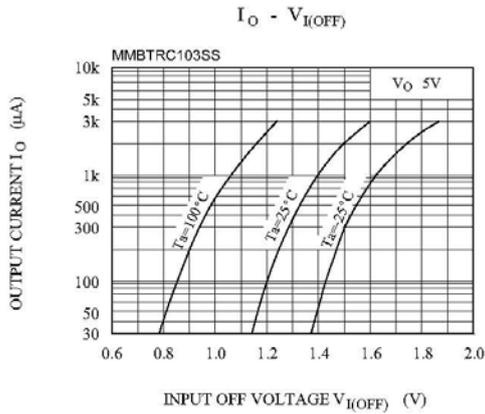
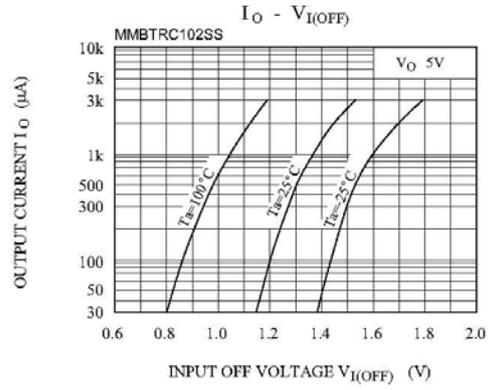
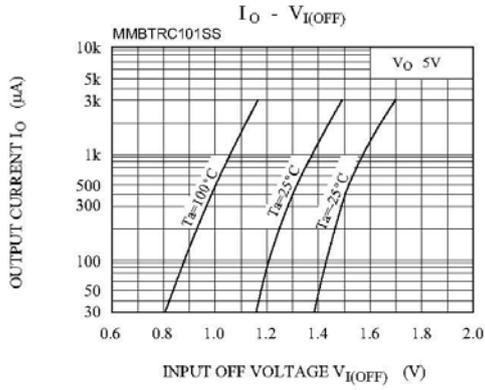
Parameter		Symbol	Value	Unit
Output Voltage		V_o	50	V
Input Voltage	KRC101S	V_i	20, -10	V
	KRC102S		30, -10	
	KRC103S		40, -10	
	KRC104S		40, -10	
	KRC105S		12, -5	
	KRC106S		20, -5	
Output Current		I_o	100	mA
Total Power Dissipation		P_{tot}	200	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 55 to + 150	°C

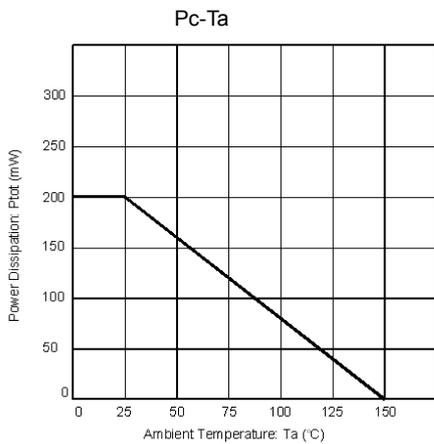
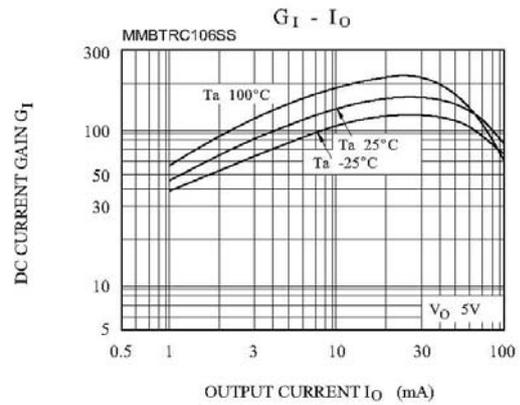
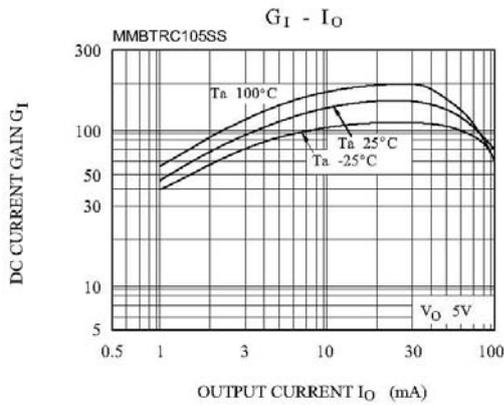
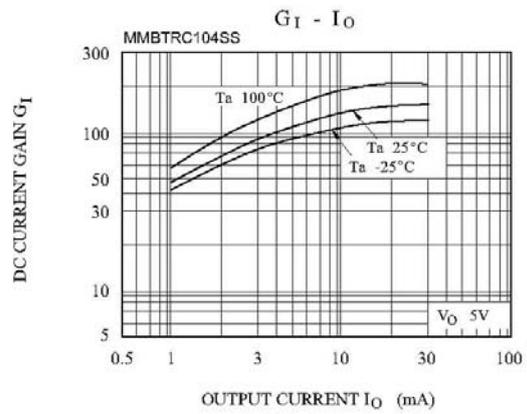
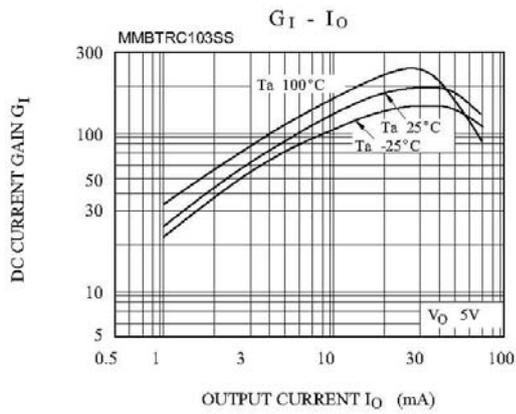
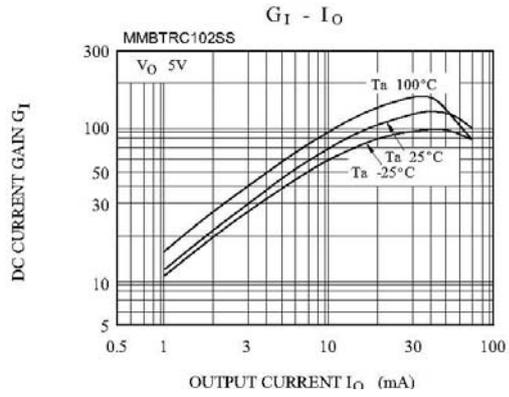
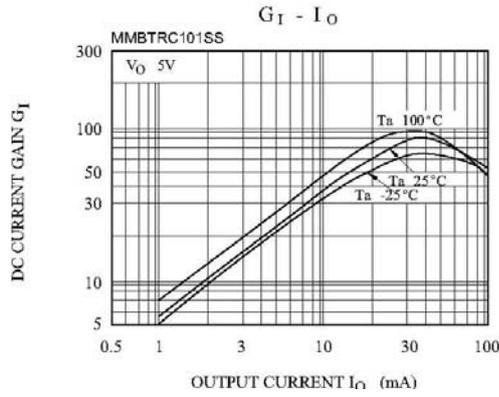
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_O = 5\text{ V}$, $I_O = 10\text{ mA}$	G_I				
KRC101S		30	-	-	-
KRC102S		50	-	-	-
KRC103S		70	-	-	-
KRC104S		80	-	-	-
KRC105S		80	-	-	-
KRC106S		80	-	-	-
Output Cutoff Current at $V_O = 50\text{ V}$	$I_{O(OFF)}$	-	-	500	nA
Input Current at $V_I = 5\text{ V}$	I_I				
KRC101S		-	-	1.8	mA
KRC102S		-	-	0.88	
KRC103S		-	-	0.36	
KRC104S		-	-	0.18	
KRC105S		-	-	3.6	
KRC106S		-	-	1.8	
Output Voltage at $I_O = 10\text{ mA}$, $I_I = 0.5\text{ mA}$	$V_{O(ON)}$	-	-	0.3	V
Input Voltage (ON) at $V_O = 0.2\text{ V}$, $I_O = 5\text{ mA}$	$V_{I(ON)}$				
KRC101S		-	-	2	V
KRC102S		-	-	2.4	
KRC103S		-	-	3	
KRC104S		-	-	5	
KRC105S		-	-	1.1	
KRC106S		-	-	1.3	
Input Voltage (OFF) at $V_O = 5\text{ V}$, $I_O = 0.1\text{ mA}$	$V_{I(OFF)}$	1 0.5	- -	- -	V
Transition Frequency at $V_O = 10\text{ V}$, $I_O = 5\text{ mA}$	f_T ¹⁾	-	200	-	MHz

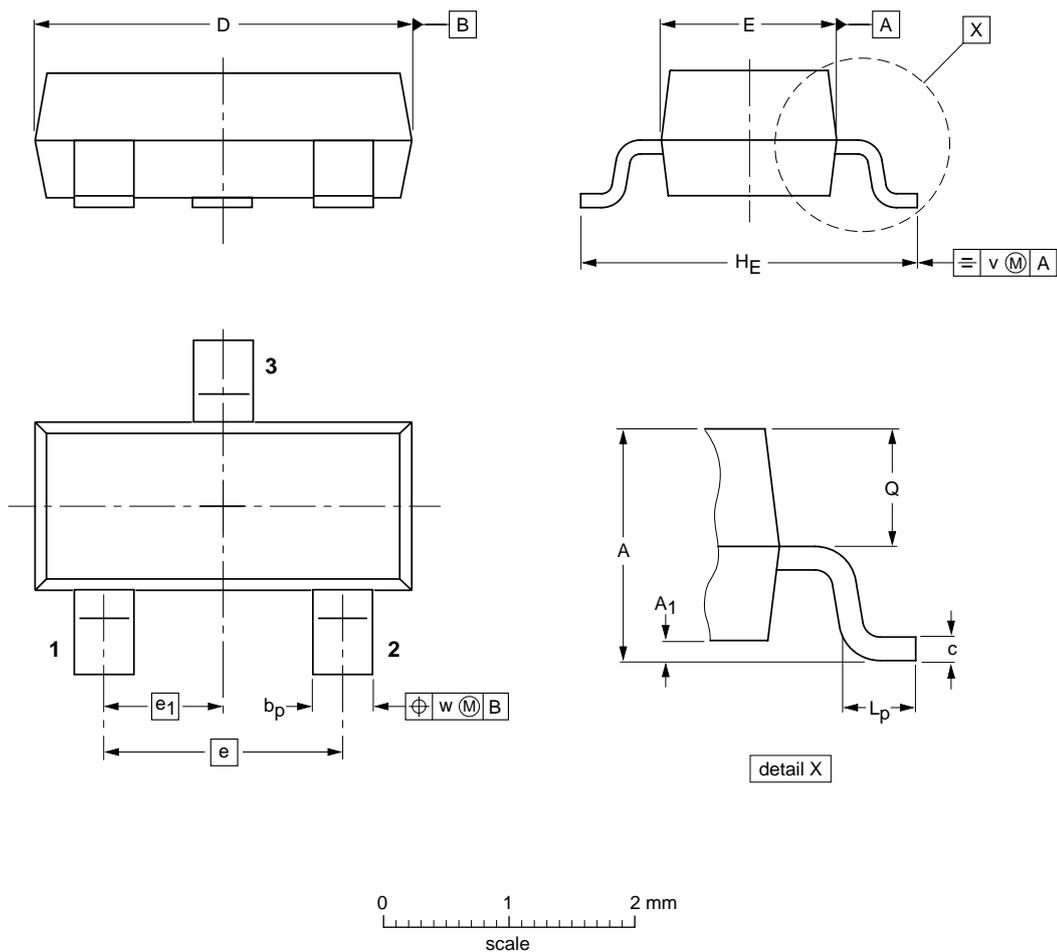
¹⁾ Characteristic of transistor only.







■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1