

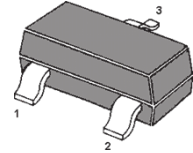
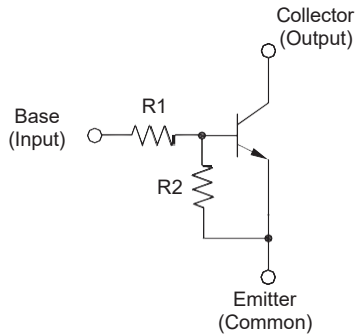
MMBTRC241SS...MMBTRC246SS

NPN Silicon Epitaxial Planar Transistor

for high current switching, interface circuit and driver circuit application.

Feature

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



1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Resistor Values And Mark

Type	R1 (KΩ)	R2 (KΩ)	Marking Code
MMBTRC241SS	1	1	N.Q
MMBTRC242SS	2.2	2.2	N.R
MMBTRC243SS	4.7	4.7	N.S
MMBTRC244SS	10	10	N.T
MMBTRC245SS	1	10	N.U
MMBTRC246SS	2.2	10	N.V

Absolute Maximum Ratings (T_a = 25 °C)

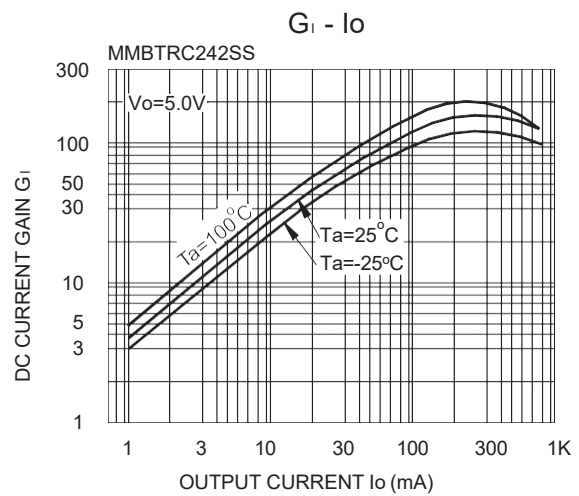
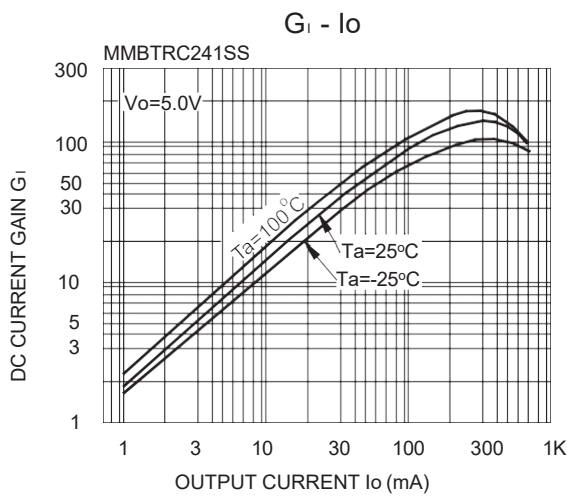
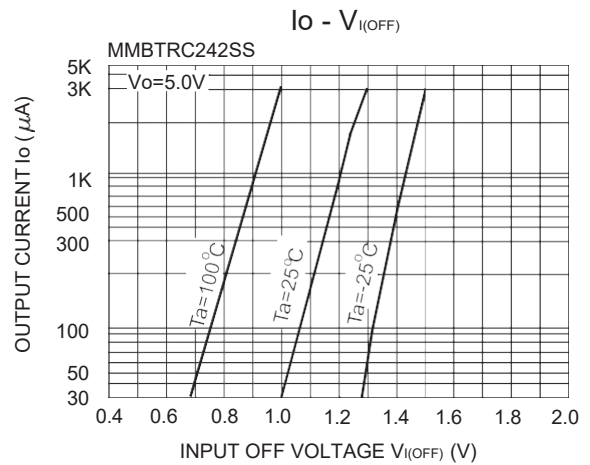
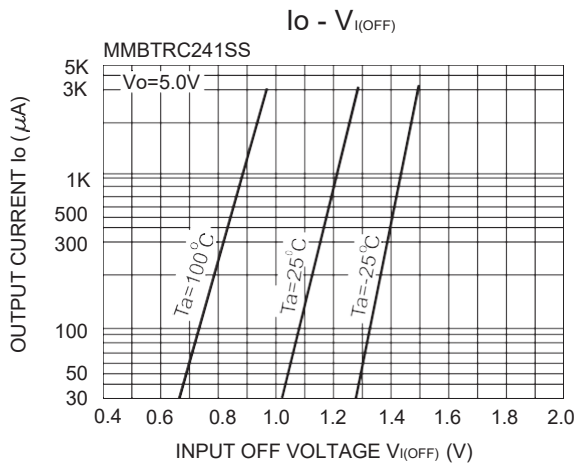
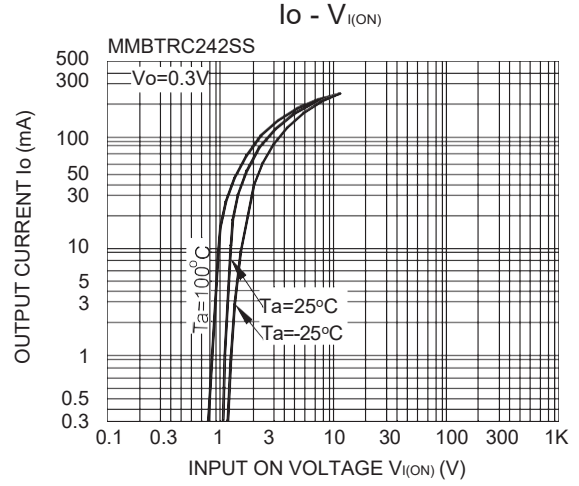
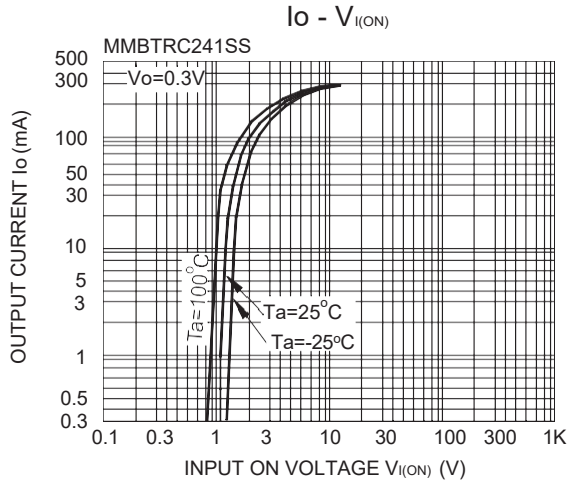
Parameter		Symbol	Value	Unit
Output Voltage		V _O	50	V
Input Voltage	MMBTRC241SS	V _I	10, -10	V
	MMBTRC242SS		12, -10	
	MMBTRC243SS		20, -10	
	MMBTRC244SS		30, -10	
	MMBTRC245SS		10, -5	
	MMBTRC246SS		12, -6	
Output Current		I _O	300	mA
Total Power Dissipation		P _{tot}	200	mW
Junction Temperature		T _J	150	°C
Storage Temperature Range		T _{stg}	- 55 to + 150	°C

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

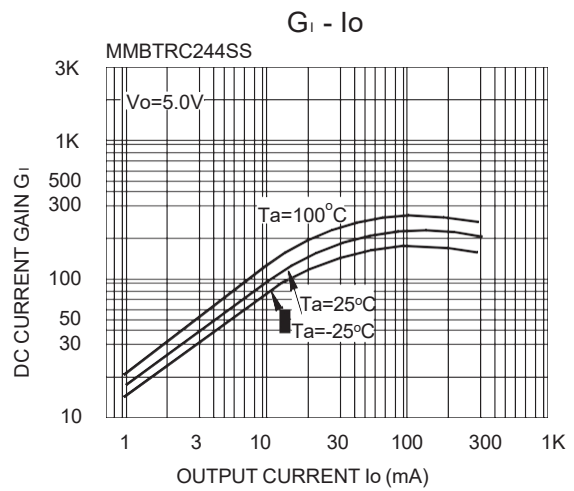
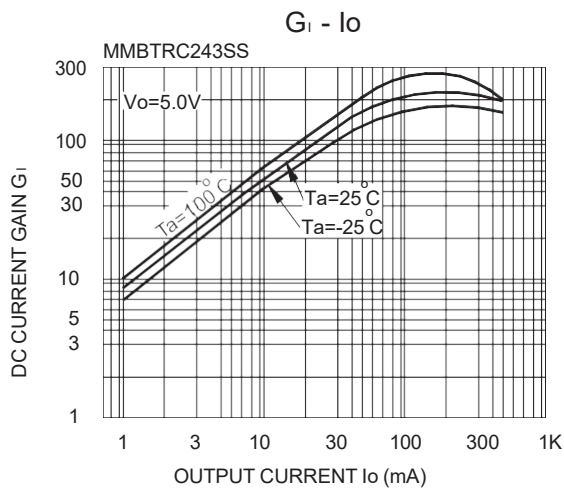
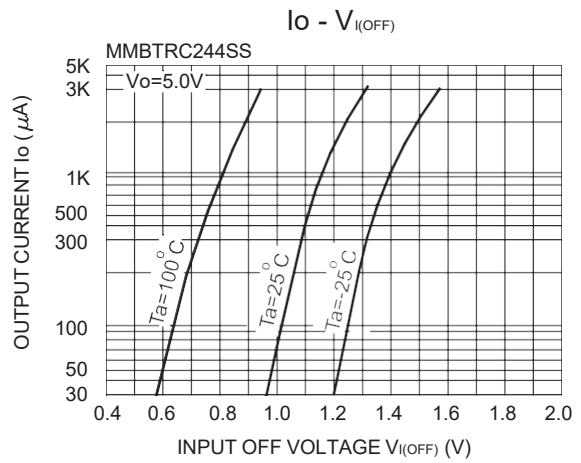
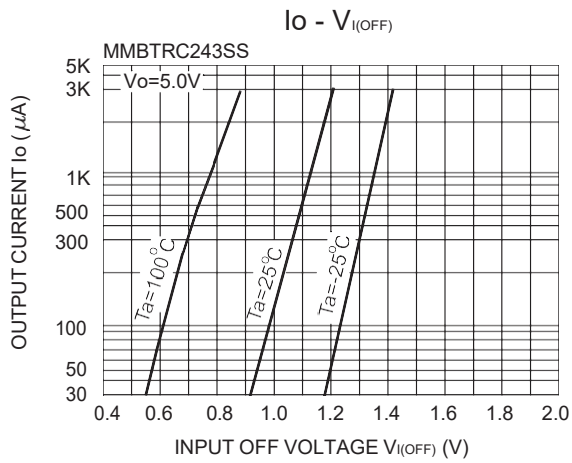
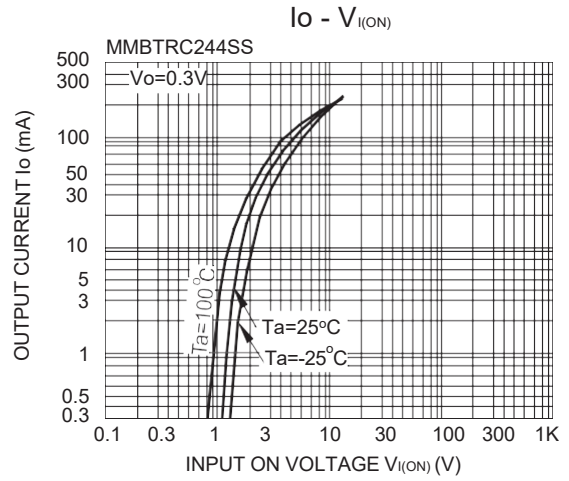
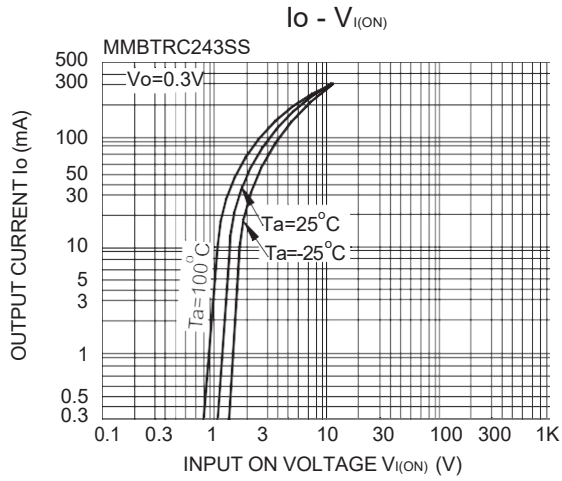
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_O = 5\text{ V}$, $I_O = 50\text{ mA}$	MMBTRC241SS MMBTRC242SS MMBTRC243SS MMBTRC244SS MMBTRC245SS MMBTRC246SS	33 39 47 56 56 56	- - - - - -	- - - - - -	- - - - - -
Output Cutoff Current at $V_O = 30\text{ V}$	$I_{O(OFF)}$	-	-	10	μA
Input Current at $V_I = 5\text{ V}$	MMBTRC241SS MMBTRC242SS MMBTRC243SS MMBTRC244SS MMBTRC245SS MMBTRC246SS	- - - - - -	- - - - - -	7.2 3.8 1.8 0.88 7.2 3.6	mA
Output Voltage at $I_O = 10\text{ mA}$, $I_I = 0.5\text{ mA}$	$V_{O(ON)}$	-	-	0.3	V
Input Voltage (ON) at $V_O = 0.3\text{ V}$, $I_O = 20\text{ mA}$	MMBTRC241SS MMBTRC242SS MMBTRC243SS MMBTRC244SS MMBTRC245SS MMBTRC246SS	- - - - - -	- - - - - -	3 3 3 3 3 2	V
Input Voltage (OFF) at $V_O = 5\text{ V}$, $I_O = 0.1\text{ mA}$	MMBTRC241SS~244SS MMBTRC245SS~246SS	- 0.3	- -	- -	V
Transition Frequency at $V_O = 10\text{ V}$, $I_O = 5\text{ mA}$, $f = 100\text{ MHz}$	$f_T^{1)}$	-	200	-	MHz

¹⁾ Characteristic of transistor only.

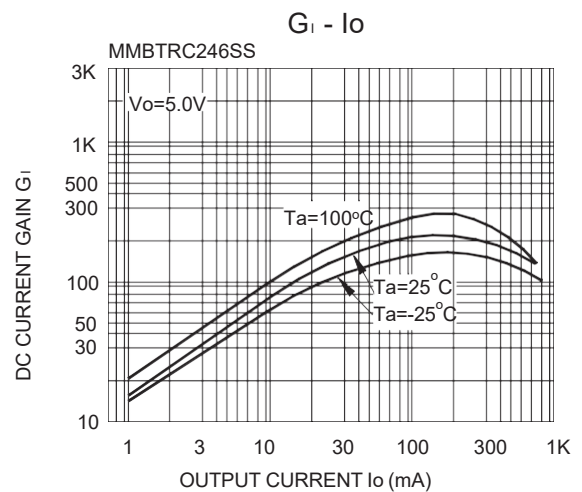
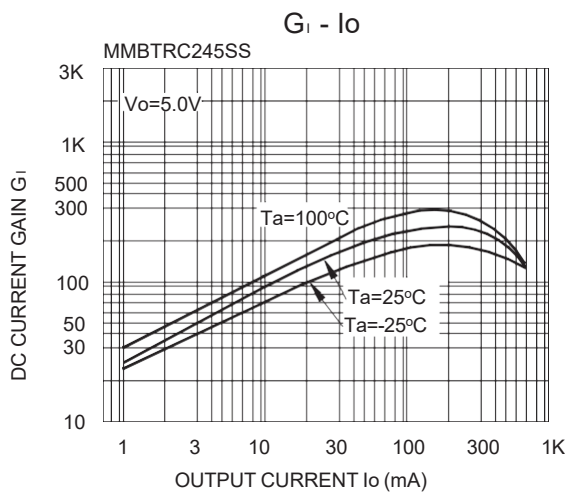
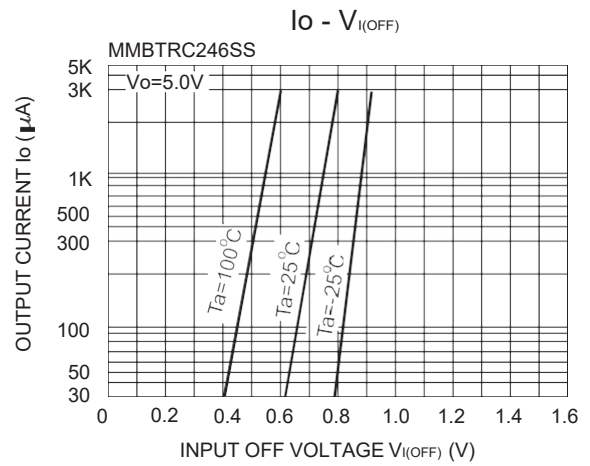
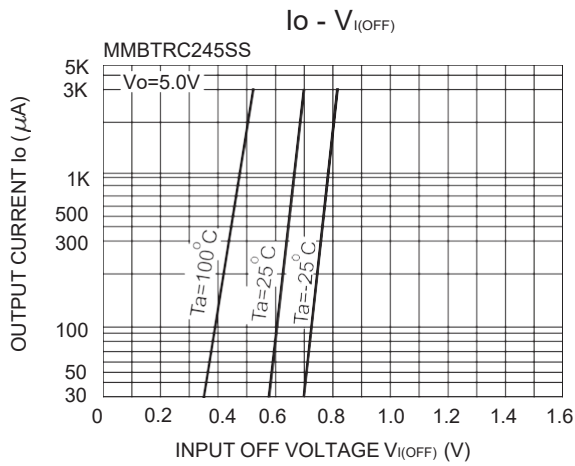
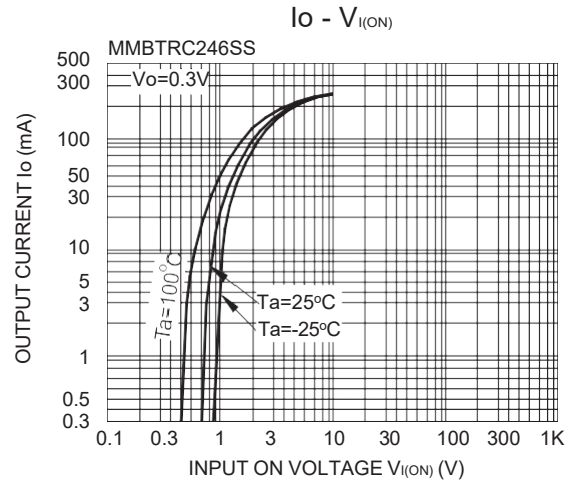
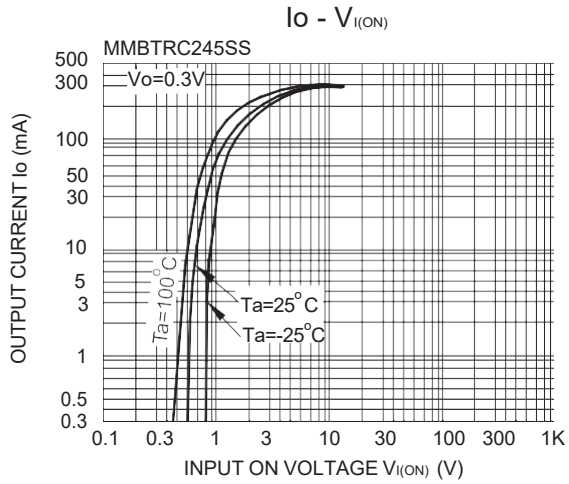
Typical Characteristics



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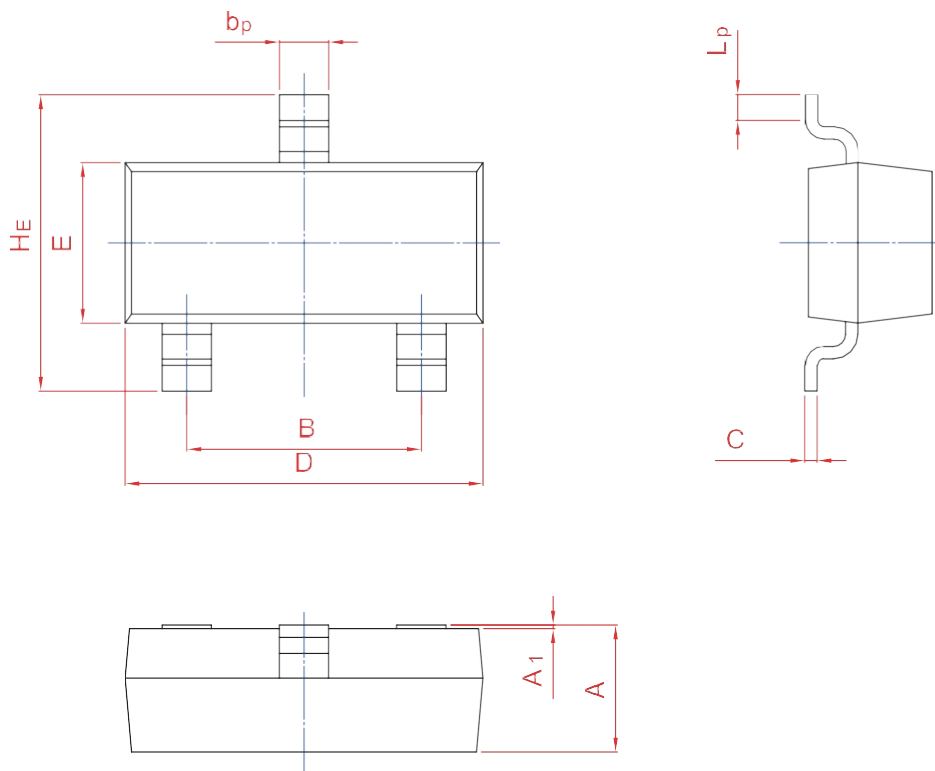
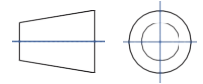
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20