

SOT-23 Plastic-Encapsulate Transistors

Features

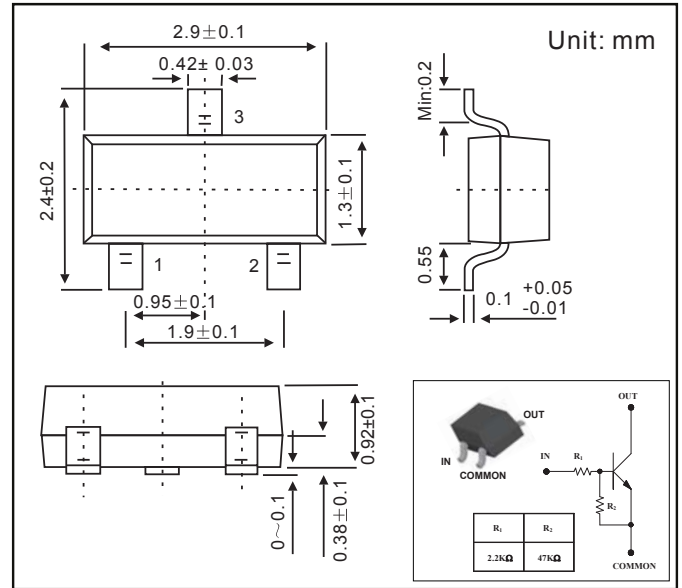
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density
- NPN Silicon Transistor

Descriptions

- Switching application
- Interface circuit and driver circuit application

MECHANICAL DATA

- Case: SOT-23 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Characteristic	Symbol	Rating	Unit
Output voltage	V_O	50	V
Input voltage	V_I	15, -5	V
Output current	I_O	100	mA
Power dissipation	P_D	200	mW
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55 ~ 150	°C

Electrical Specification ($T_A=25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output cut-off current	$I_{O(OFF)}$	$V_O=50\text{V}, V_I=0$	-	-	500	nA
DC current gain	G_I	$V_O=5\text{V}, I_O=10\text{mA}$	80	200	-	-
Output voltage	$V_{O(ON)}$	$I_O=10\text{mA}, I_I=0.5\text{mA}$	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=0.2\text{V}, I_O=5\text{mA}$	-	-	1.1	V
Input voltage (OFF)	$V_{I(OFF)}$	$V_O=5\text{V}, I_O=0.1\text{mA}$	0.5	-	-	V
Transition frequency	f_T^*	$V_O=10\text{V}, I_O=5\text{mA}, f=1\text{MHz}$	-	200	-	MHz
Input current	I_I	$V_I=5\text{V}, I_O=0$	-	-	3.6	mA
Input resistor (Input to base)	R_1	-	1.54	2.2	2.86	K Ω
Input resistor (Base to common)	R_2	-	33	47	61	K Ω

* : Characteristic of transistor only

RATINGS AND CHARACTERISTIC CURVES

Fig. 1 $P_D - T_a$

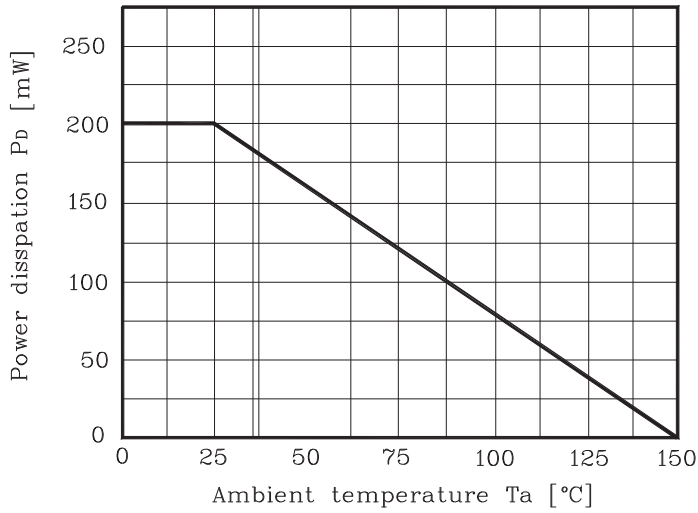


Fig. 2 $I_O - V_{I(ON)}$

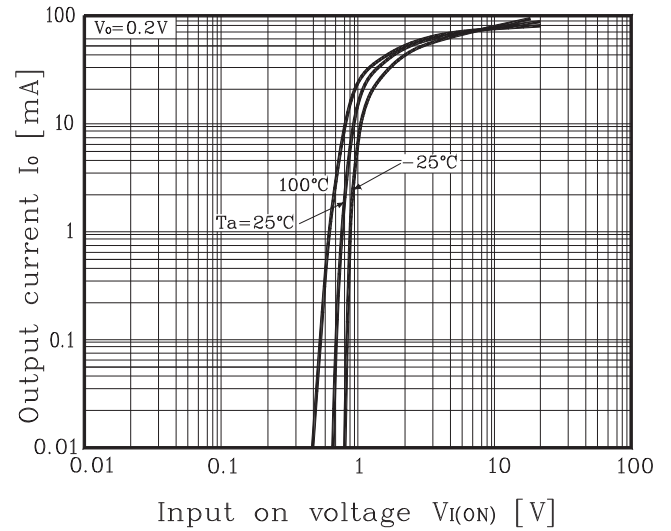


Fig. 3 $I_O - V_{I(OFF)}$

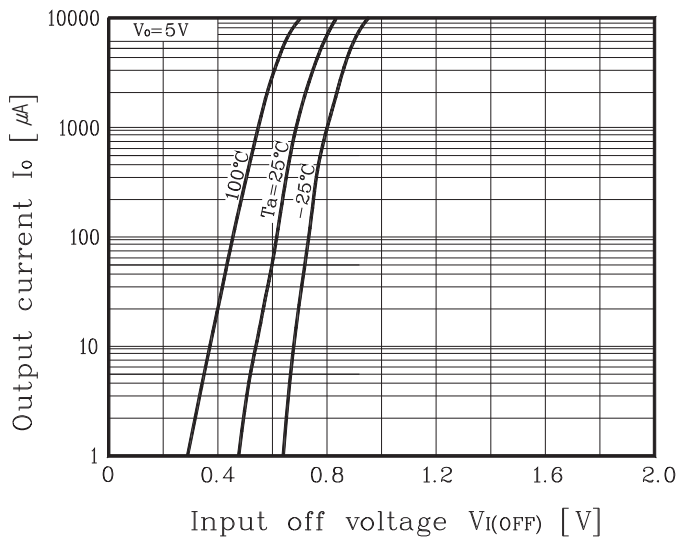


Fig. 4 $G_I - I_O$

