SOT-723 Plastic-Encapsulate Transistors

Features

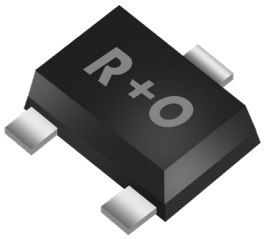
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input.They also have the advantage of almost completely eliminating parasitic effects
- Only the on/off conditions need to be set for operation, making device design easy

Supply Voltage
VCC 50V
Collector Current
0.1 Ampere

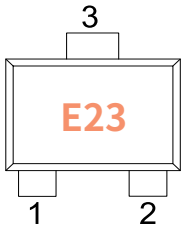
Mechanical Data

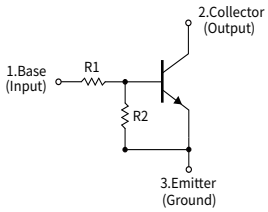
- Case: SOT-723
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

SOT-723



Function Diagram





Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-723	R1	0.0012	8000	80000	640000	7"

Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Supply Voltage	V_{CC}	V	50
Input Voltage	V_{IN}	V	-5~+30
Output Current	I_O	mA	100
Peak Collector Current	I_{CM}	mA	100
Power Dissipation	P_D	mW	100
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	-55 ~+150

Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Typ	Max
Transition frequency	f_T	I_O= 5mA, V_O= 10V	MHz	-	250	-

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition	Min	Typ	Max
Input voltage	$V_{I(off)}$	V	I_O=100μA, V_{cc}=5V	0.5	-	-
	$V_{I(on)}$		I_O=5mA, V_O=0.3V	-	-	1.3
Output voltage	$V_{O(on)}$		I_O /I_I=5mA/0.25mA	-	-	0.3
Input current	I_I	mA	V_I=5V	-		1.8
Output current	$I_{O(off)}$	μA	V_{cc}=50V,V_I=0V	-	-	0.5
DC Current Gain	h_{FE}	-	V_O=5V, I_O=10mA	80	-	-
Input resistance	R_1	kΩ	-	3.29	4.7	6.11
Resistance ratio	R_2 /R_1	-	-	8	10	12

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

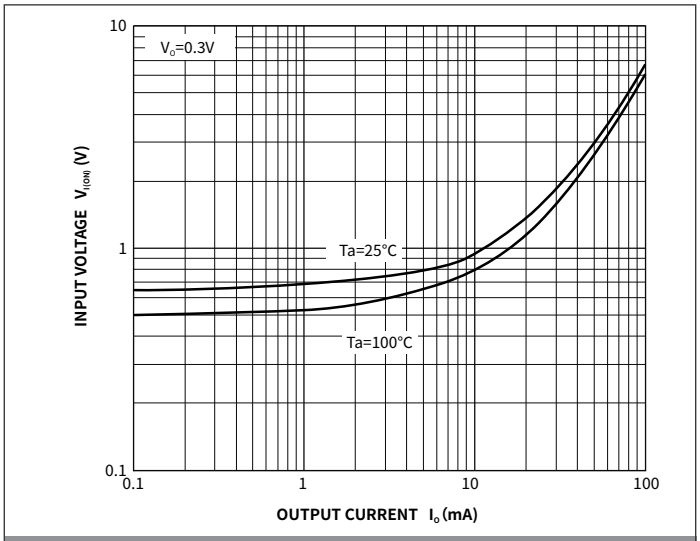


Fig.1 ON Characteristics

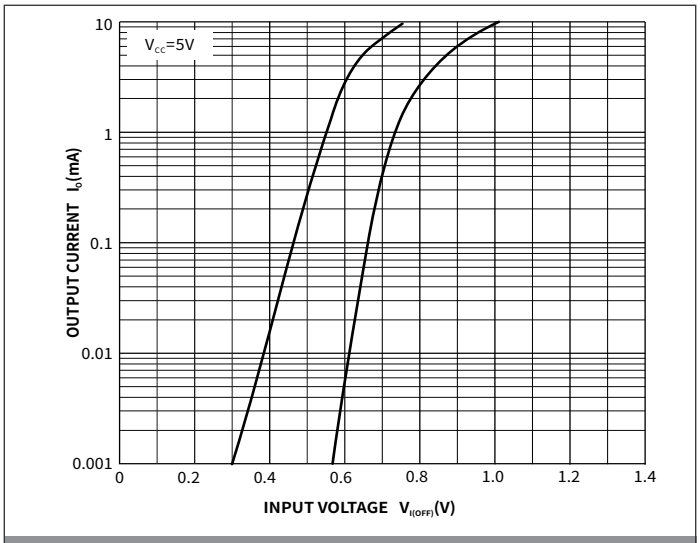


Fig.2 OFF Characteristics

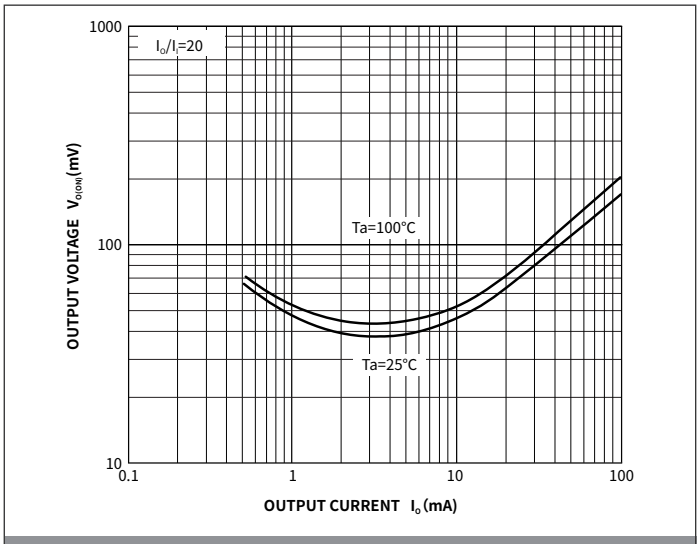


Fig.3 Vo(on)-Io

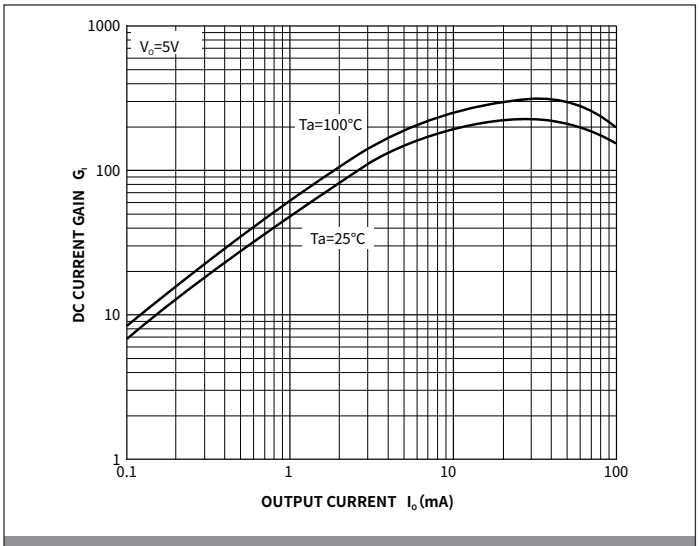
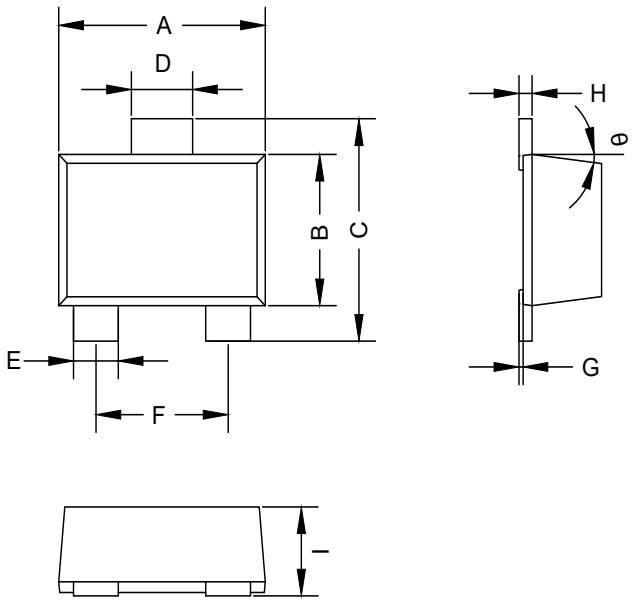


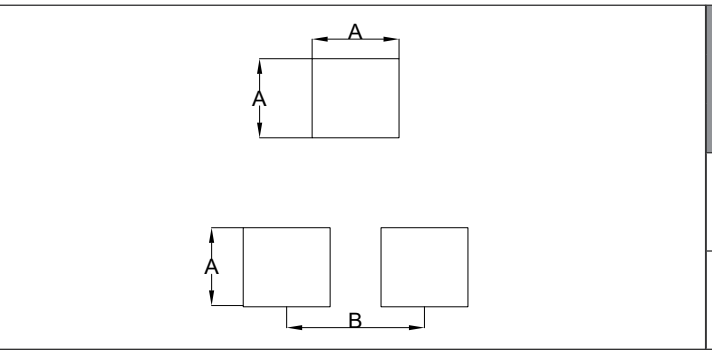
Fig.4 Gi-Io

Package Outline Dimensions (SOT-723)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.15	1.25	0.045	0.049
B	0.75	0.85	0.030	0.033
C	1.15	1.25	0.045	0.049
D	0.27	0.37	0.010	0.015
E	0.17	0.27	0.007	0.010
F	0.80TYP		0.032TYP	
G	-	0.50	-	0.020
H	0.08	0.15	0.003	0.006
I	0.43	0.5	0.017	0.020
θ	REF 7°			

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.30	0.50	0.012	0.020
B	0.70	0.90	0.028	0.035