

Features

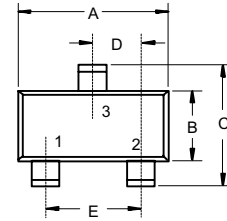
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow negative 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
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

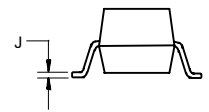
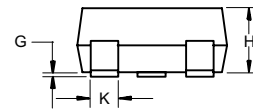
- Case: SOT-523



SOT-523



1. Base
2. Emitter
3. Collector



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	100	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$

Parameter	Min	Typ	Max	Symbol	Unit
Collector-Base Breakdown Voltage ($I_C=50\mu\text{A}$, $I_E=0$)	50	---	---	$V_{(BR)CBO}$	V
Collector-Emitter Breakdown Voltage ($I_C=1\text{mA}$, $I_E=0$)	50	---	---	$V_{(BR)CEO}$	V
Emitter-Base Breakdown Voltage ($I_E=50\mu\text{A}$, $I_C=0$)	5	---	---	$V_{(BR)EBO}$	V
Collector Cut-off Current ($V_{CB}=50\text{V}$, $I_E=0$)	---	---	0.5	I_{CBO}	μA
Emitter Cut-off Current ($V_{EB}=4\text{V}$, $I_C=0$)	---	---	0.5	I_{EBO}	μA
DC Current Gain ($V_{CE}=5\text{V}$, $I_C=1\text{mA}$)	100	300	600	h_{FE}	---
Collector-Emitter Saturation Voltage ($I_C=10\text{mA}$, $I_E=1\text{mA}$)	---	---	0.3	$V_{CE(sat)}$	V
Input Resistor	7	10	13	R_1	K Ω
Transition Frequency ($V_{CE}=10\text{V}$, $I_C=-5\text{mA}$, $f=100\text{MHz}$)	---	250	---	f_T	MHz

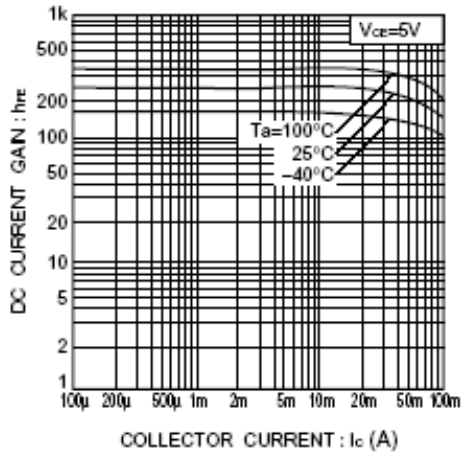


Fig.1 DC current gain vs. collector current

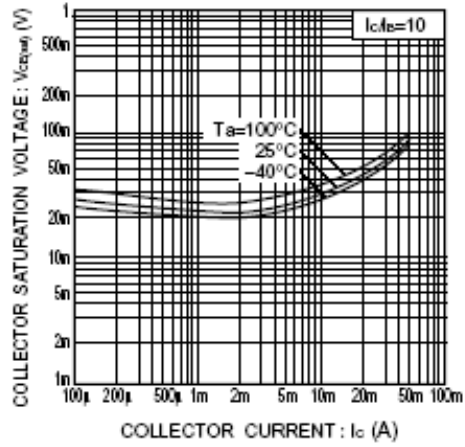


Fig.2 Collector-emitter saturation voltage vs. collector current