

SOT-523 Silicon General Purpose Transistor (PNP)

General description

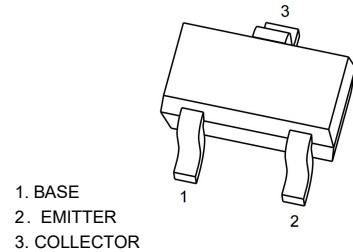
SOT-523 Silicon General Purpose Transistor (PNP)

FEATURES

- Simplifies Circuit Design
- Complementary to MMBT5551T
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Epoxy UL: 94V-0

Device Marking : 2L

SOT-523



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-160	V
Collector-Emitter Voltage	V_{CEO}	-150	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-600	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55-+150	$^\circ\text{C}$
Thermal resistance from junction to ambient	$R_{\theta JA}$	833	$^\circ\text{C/W}$

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

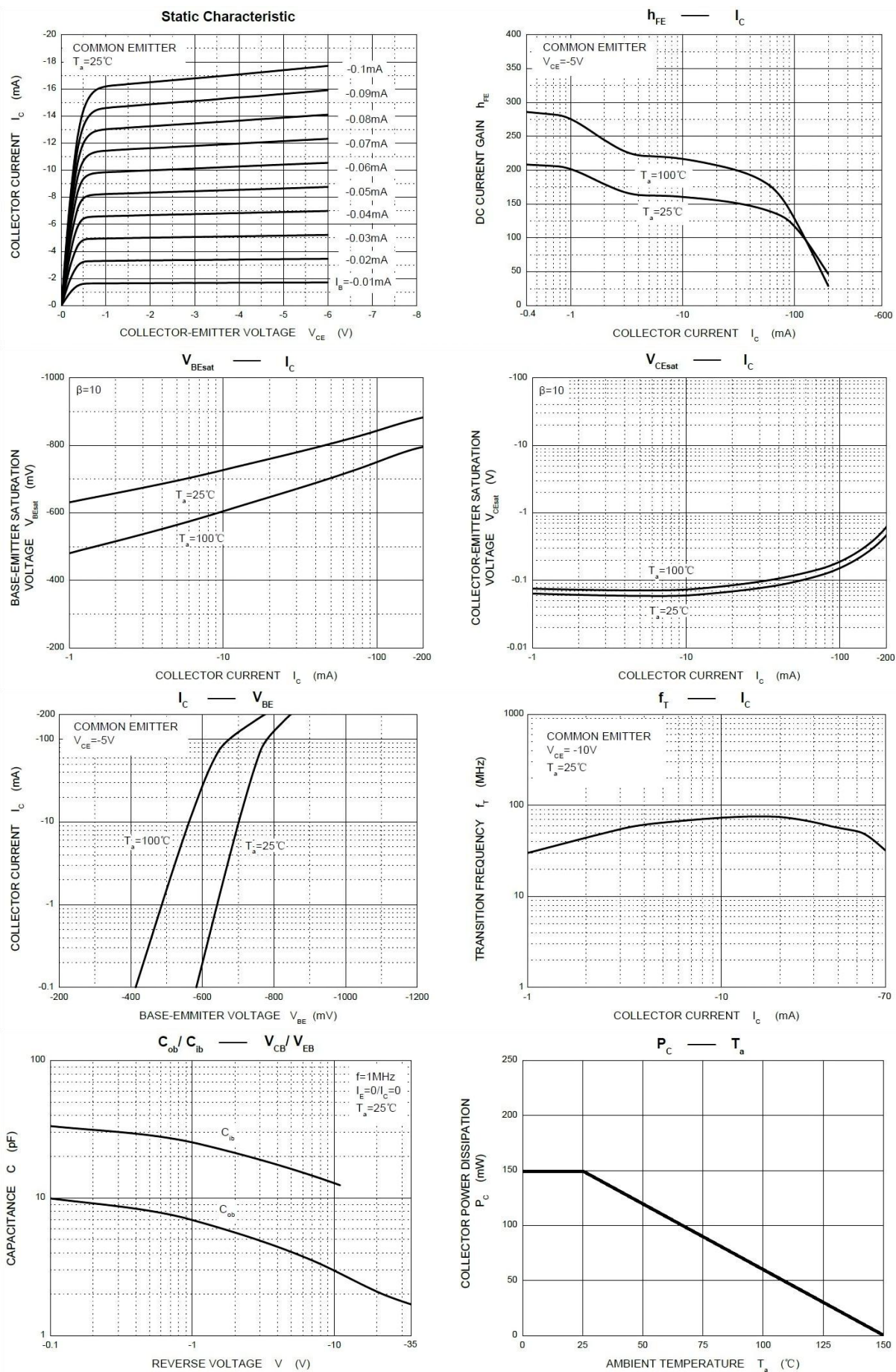
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-150		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -120\text{V}, I_E = 0\text{V}$		-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -3\text{V}, I_C = 0\text{V}$		-50	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	50		
	$h_{FE(2)}$	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	100	300	
	$h_{FE(3)}$	$V_{CE} = -5\text{V}, I_C = -50\text{mA}$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-0.50	V
		$I_C = -10\text{mA}, I_B = -1\text{mA}$		-0.20	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-1.00	V
		$I_C = -10\text{mA}, I_B = -1\text{mA}$		-1.00	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$	100		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		6	pF

*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2.0\%$

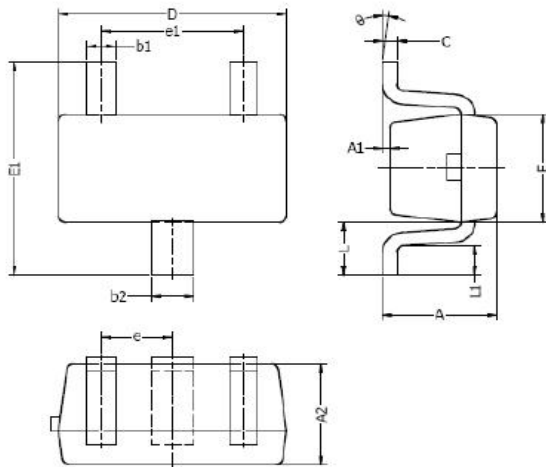


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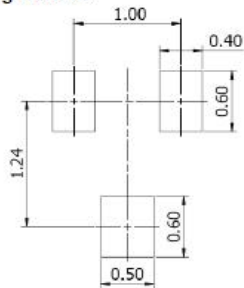
Typical characteristics



SOT-523 PACKAGE OUTLINE



Typical Soldering Pattern:



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

NOTES:

1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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