

PNP Silicon Epitaxial Planar Transistor

Features

- For use in small type equipments, especially recommended or hybrid circuit and other applications
- The transistor is subdivided into five groups A, B, C, D and E, according to its DC current gain.

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{CBO}	-5	V
Collector Current -Continuous	I_C	-700	mA
Total power dissipation($T_A=25^{\circ}\text{C}$)	P_{tot}	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector- base breakdown voltage	BV_{CBO}	$I_C = -100\mu\text{A}, I_E = 0$	-30			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1\text{mA}, I_B = 0$	-25			V
Emitter - base breakdown voltage	BV_{EBO}	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -30\text{V}, I_E = 0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -3\text{V}, I_C = 0$			-100	nA
DC current gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	A	110		180
			B	135		220
			C	170		270
			D	200		320
			E	250		400
		$V_{CE} = -1\text{V}, I_C = -700\text{mA}$		50		
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C = -700\text{mA}, I_B = -70\text{mA}$			-0.6	V
Base-emitter saturation voltage	$V_{BE(ON)}$	$V_{CE} = -6\text{V}, I_C = -10\text{mA}$	-0.6		-0.7	V
Transition frequency	f_T	$V_{CE} = -6\text{V}, I_C = -10\text{mA}$		160		MHz
Output Capacitance	C_{ob}	$V_{CB} = -6\text{V}, I_E = 0, f = 1\text{MHz}$		17		pF

Typical Characteristics

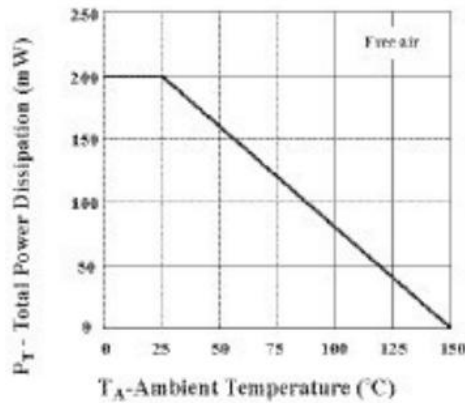


Fig.1 TOTAL POWER DISSIPATION VS. AMBIENT TEMPERATURE

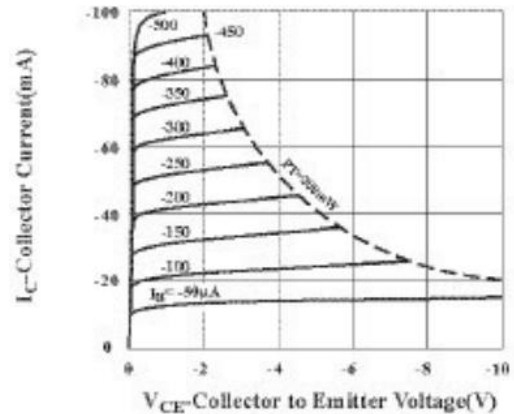


Fig.2 COLLECTOR CURRENT VS. COLLECTOR TO EMITTER VOLTAGE

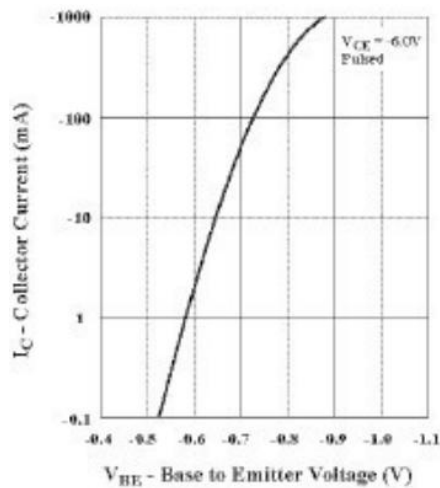


Fig.3 COLLECTOR CURRENT VS. BASE TO EMITTER VOLTAGE

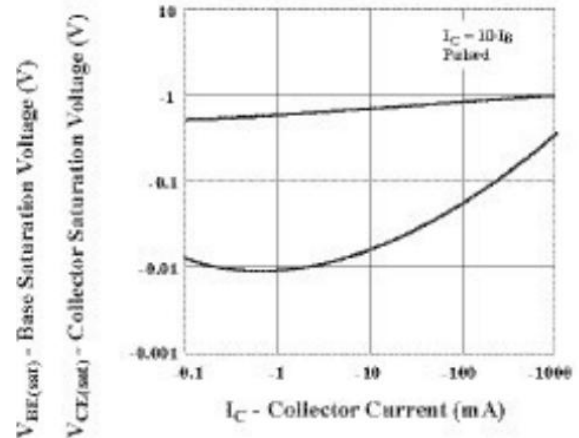


Fig.5 BASE AND COLLECTOR SATURATION VOLTAGE VS. COLLECTOR CURRENT

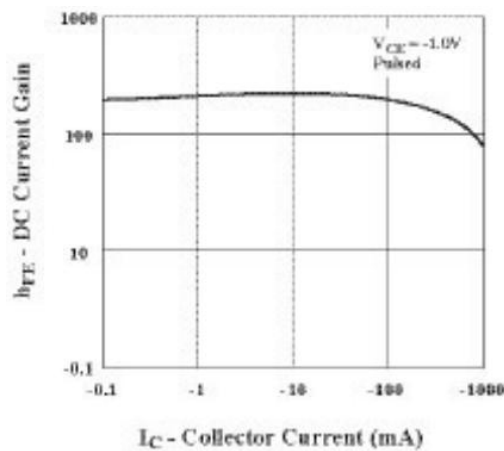


Fig.4 DC CURRENT GAIN VS. COLLECTOR CURRENT

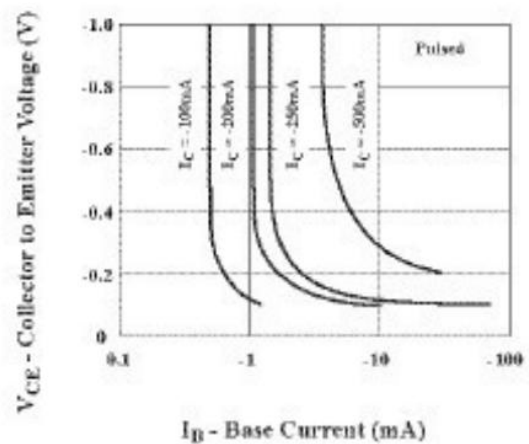
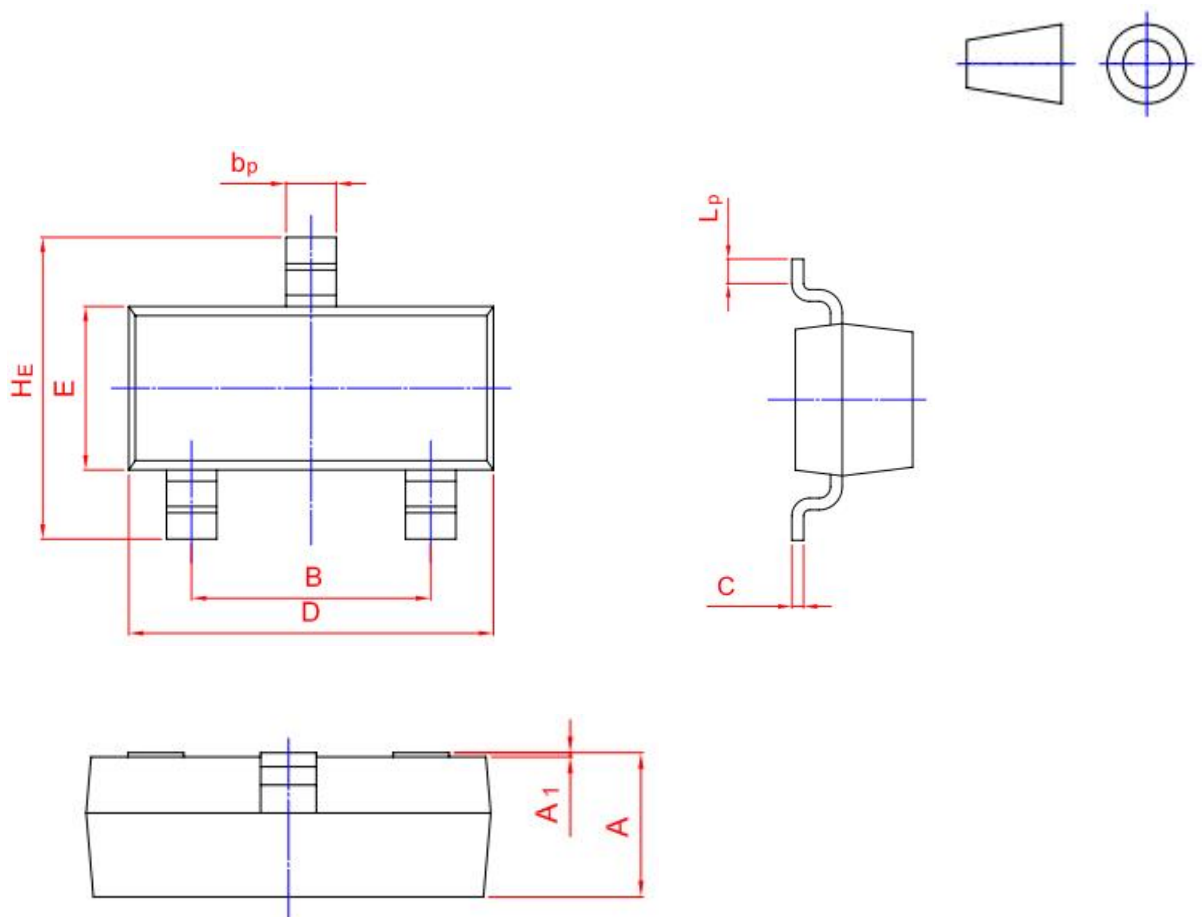


Fig.6 COLLECTOR TO EMITTER VOLTAGE VS. BASE CURRENT

Package Information

SOT-23

Dimensions in mm



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
Mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20