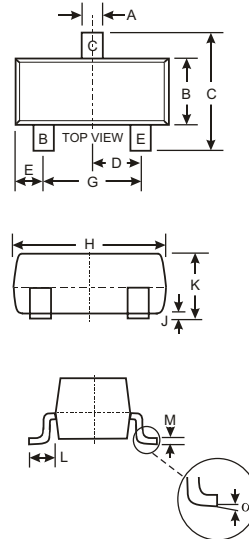


Features

- High current capacity in compact package.
- Epitaxial planar type.
- PNP complement: SS8550
- Pb-Free Package is available.
- Marking Code: Y1



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

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

Rating	Symbol	Max	Unit
Collector-Emitter Voltage	V_{CE0}	25	V
Collector-Base Voltage	V_{CBO}	40	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1500	mAdc

• THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) $T_A = 25^\circ\text{C}$ Derate above 25°C	PD	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$ Derate above 25°C	PD	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_j, T_{Sg}	-55 to +150	°C

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

NPN SILICON GENERAL PURPOSE TRANSISTOR

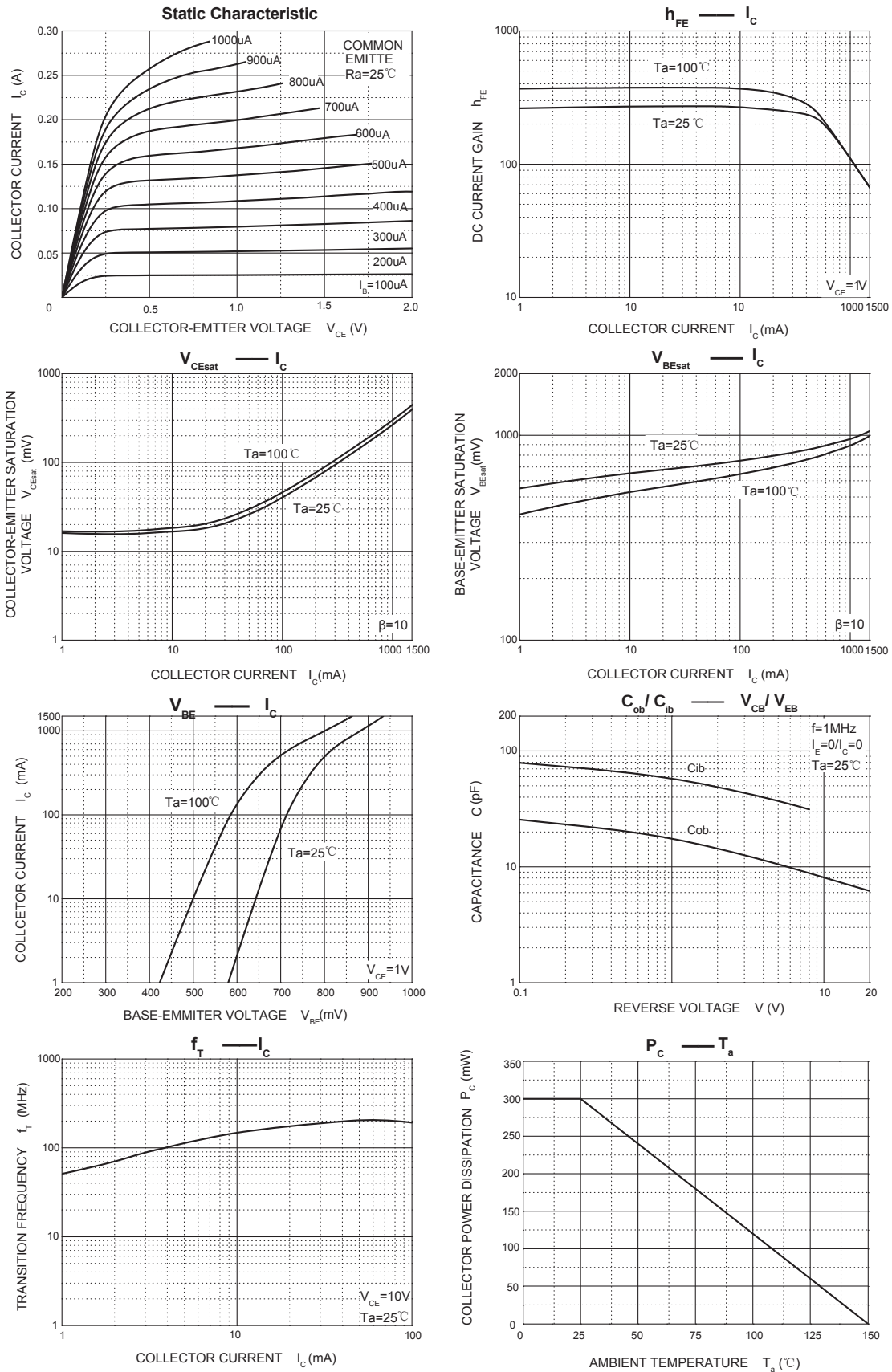
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1.0\text{mA}, I_B = 0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 35\text{V}, I_E = 0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20\text{V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	120		400	
	$h_{FE(2)}$	$V_{CE} = 1\text{V}, I_C = 800\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800\text{mA}, I_B = 80\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800\text{mA}, I_B = 80\text{mA}$			1.2	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 30\text{MHz}$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			15	pF

CLASSIFICATION OF h_{FE}

Rank	C	D	E
Range	120-200	200-350	300-400

TYPICAL TRANSIENT CHARACTERISTICS



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