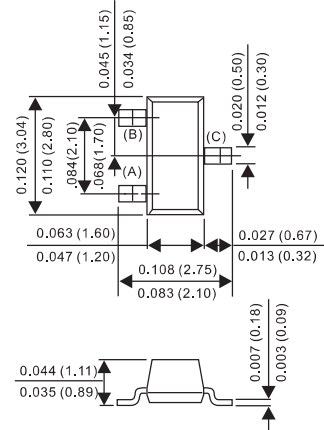


Features

- High current capacity in compact package $I_C = -1.5A$
- Epitaxial planar type
- Pb-free package is available
- Suffix "-H" indicates Halogen-free part

Mechanical Data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 0.008 gram

SOT - 23


Dimensions in inches and (millimeters)

Maximum ratings (AT $T_A=25^\circ C$ unless otherwise noted)

PARAMETER	Symbol	Value	UNIT
Collector-base voltage	V_{CBO}	-40	V
Collector-emitter voltage	V_{CEO}	-25	V
Emitter-base voltage	V_{EBO}	-5.0	V
Collector current-continuoun	I_C	- 1500	mAdc

Thermal characteristics

PARAMETER	Symbol	MIN.	TYP.	MAX.	UNIT
Total device dissipation FR-5 board (1)	$T_A = 25^\circ C$ Derate above $25^\circ C$	P_D			225
					mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$			1.8
					$^\circ C/W$
Total device dissipation alumina substrate(2)	$T_A = 25^\circ C$ Derate above $25^\circ C$	P_D			300
					mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$			2.4
					$^\circ C/W$
Operating junction temperature range	T_J	-55		+150	$^\circ C$
Storage temperature range	T_{STG}	-55		+150	$^\circ C$

1.FR-5 = 1.0 X 0.75 X0.062 in.

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

**Electrical characteristics** (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)**Off characteristics**

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Collector-base breakdown voltage	$I_c = -100\mu\text{A}$	$V_{(BR)CBO}$	-40			V
Collector-emitter breakdown voltage	$I_c = -1.0\text{mA}$	$V_{(BR)CEO}$	-25			V
Emitter-base breakdown voltage	$I_E = -100\mu\text{A}$	$V_{(BR)EBO}$	-5.0			V
Collector cutoff current	$V_{CB} = -35\text{V}$	I_{CBO}			-150	nA
Emitter cutoff current	$V_{EB} = -4.0\text{V}$	I_{EBO}			-150	nA

On characteristics

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
DC current gain	$I_c = -100\text{mA}, V_{CE} = -1.0\text{V}$	h_{FE}^{*Note}	100		600	
Collector-emitter saturation voltage	$I_c = -800\text{mA}, I_B = -80\text{mA}$	$V_{CE(sat)}$			-0.5	V

Note	*	L	H	J
	h_{FE}	120~200	200~350	300~400



Rating and characteristic curves

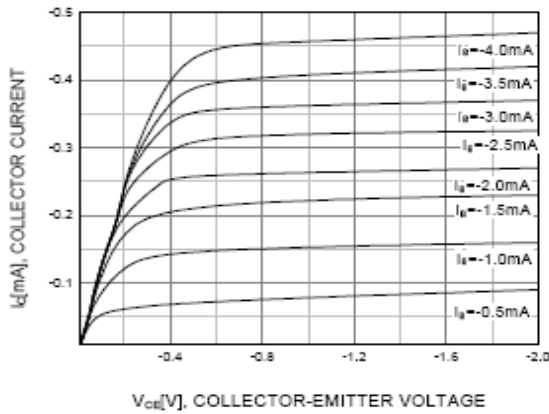


Figure 1. Static Characteristic

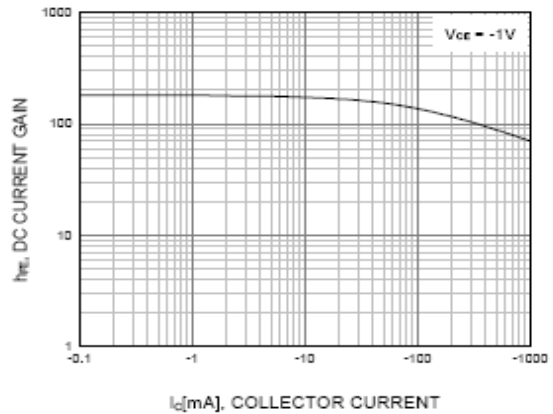


Figure 2. DC current Gain

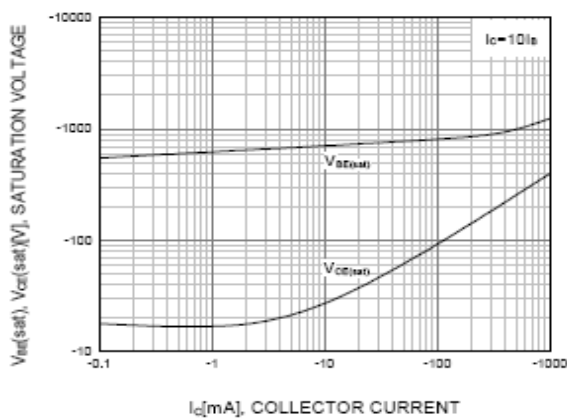


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

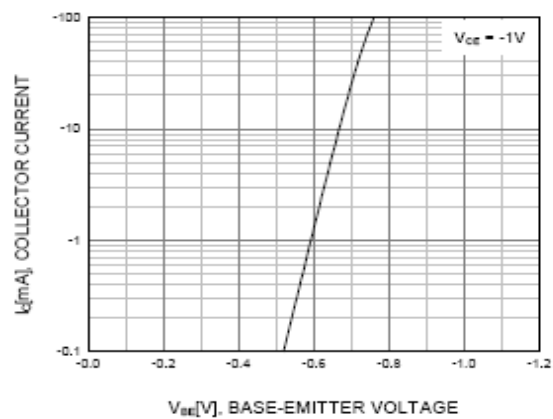


Figure 4. Base-Emitter On Voltage

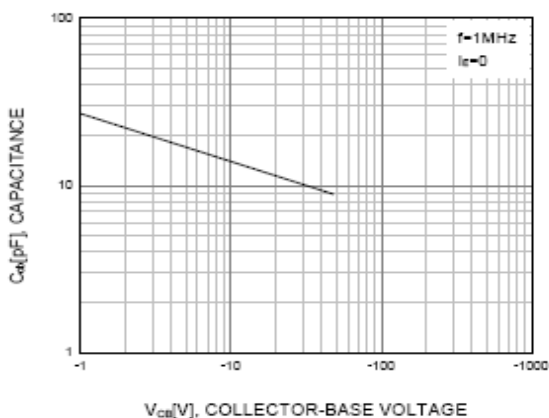


Figure 5. Collector Output Capacitance

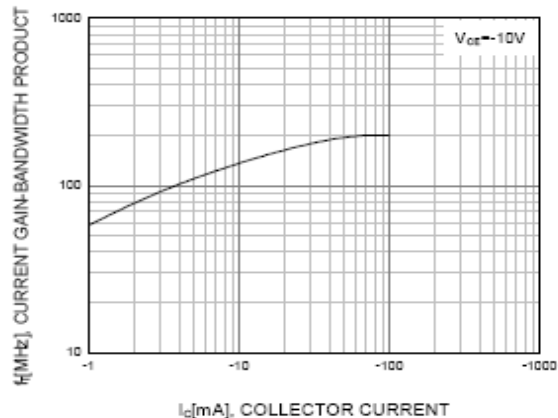
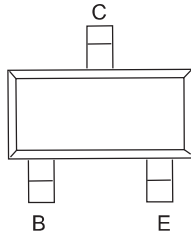
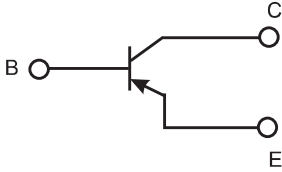


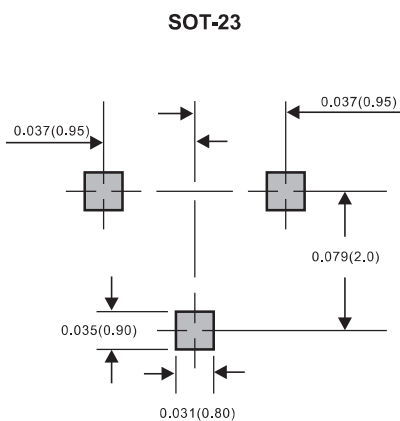
Figure 6. Current Gain Bandwidth Product

Pinning information

Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
MMBTSS8550	Y2

Suggested solder pad layout


Dimensions in inches and (millimeters)