

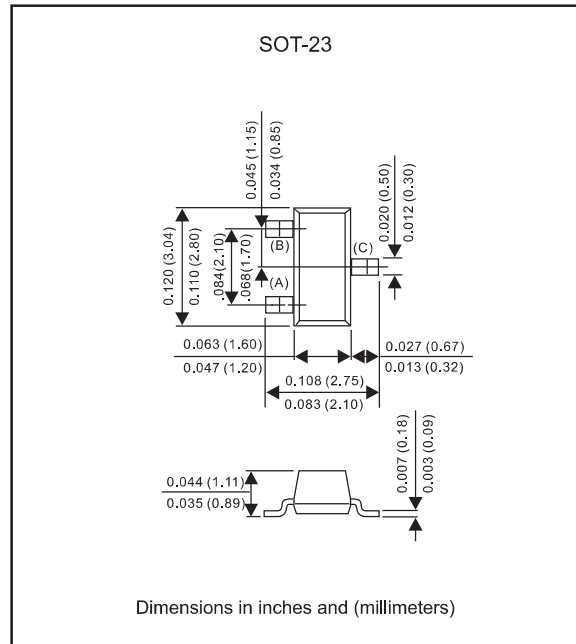
### Features

- High current capacity in compact package  $I_c = -1.5A$
- Epitaxial planar type
- Pb-free package is available
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

### 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

### Package outline



### 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
				1.8	mW/ $^\circ C$
Thermal resistance	Junction to ambient	$R_{\theta JA}$		556	$^\circ C/W$
Total device dissipation alumina substrate(2)	$T_A = 25^\circ C$ Derate above $25^\circ C$	$P_D$		300	mW
				2.4	mW/ $^\circ C$
Thermal resistance	Junction to ambient	$R_{\theta JA}$		417	$^\circ C/W$
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 X 0.062 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

## Rating and characteristic curves

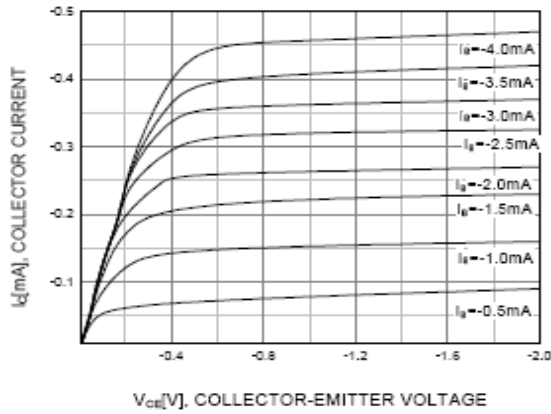


Figure 1. Static Characteristic

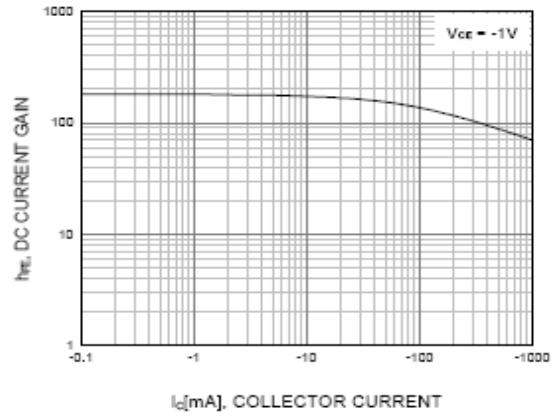


Figure 2. DC current Gain

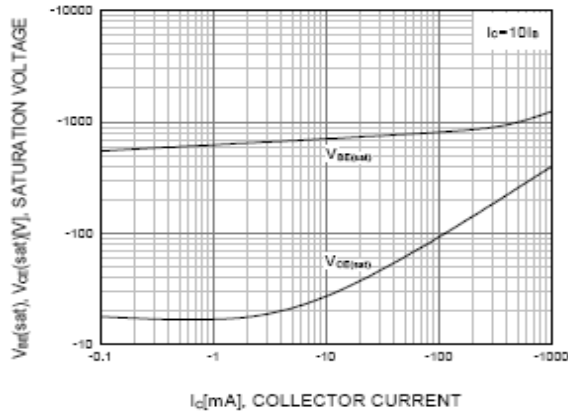


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

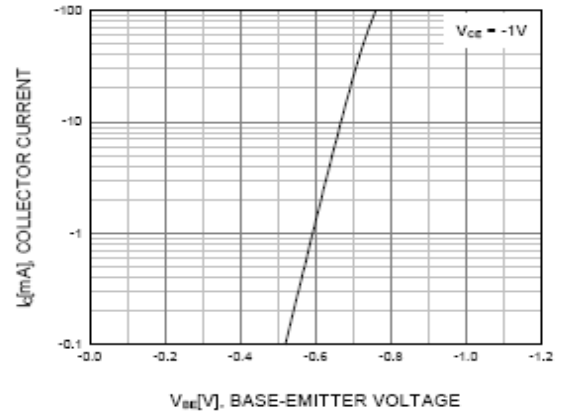


Figure 4. Base-Emitter On Voltage

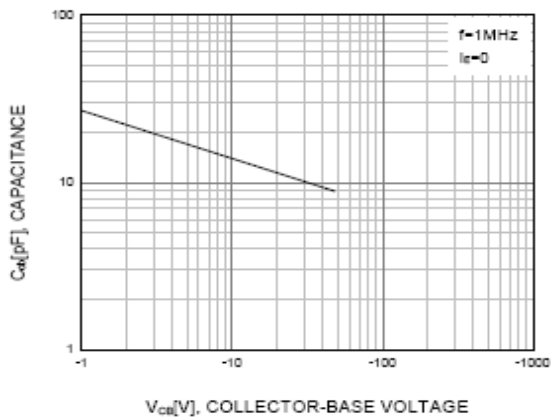


Figure 5. Collector Output Capacitance

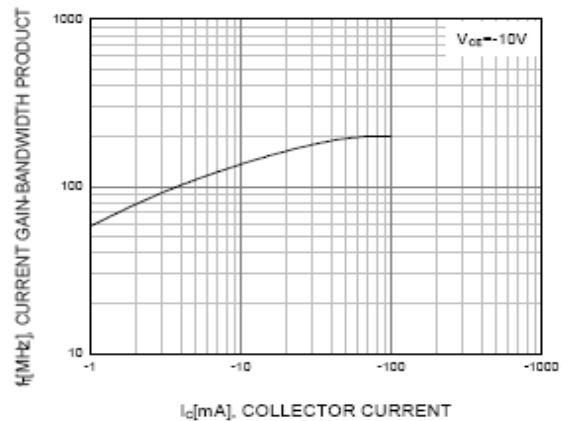
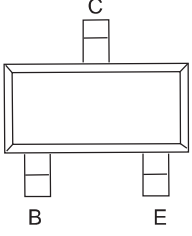
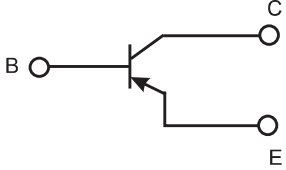


Figure 6. Current Gain Bandwidth Product

## Pinning information

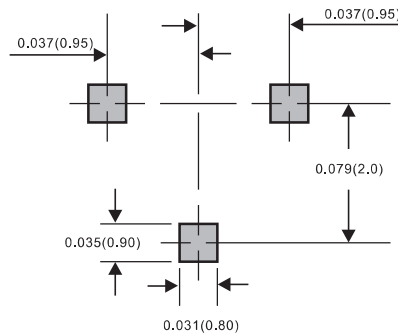
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

## Marking

Type number	Marking code
SS8550-Q1	Y2

## Suggested solder pad layout

### SOT-23



Dimensions in inches and (millimeters)