

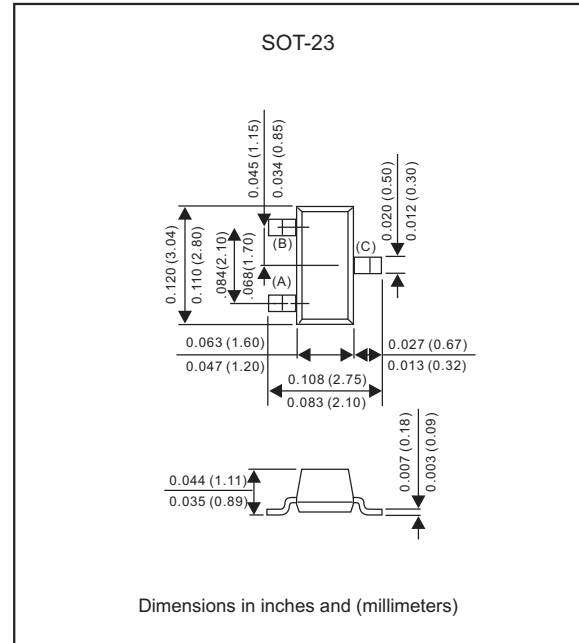
Features

- High current capacity in compact package $I_c = -0.5A$.
- 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	-500	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

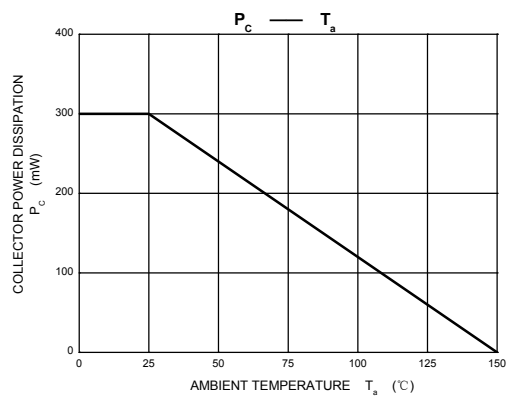
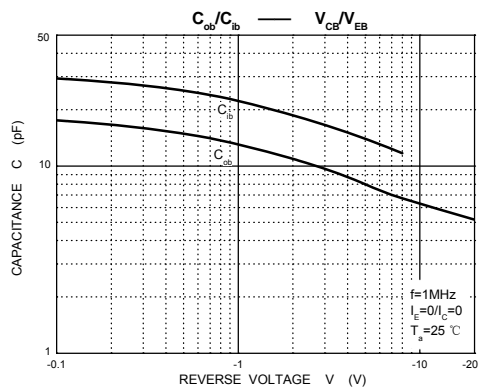
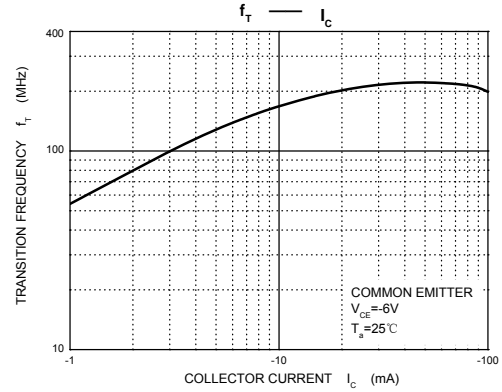
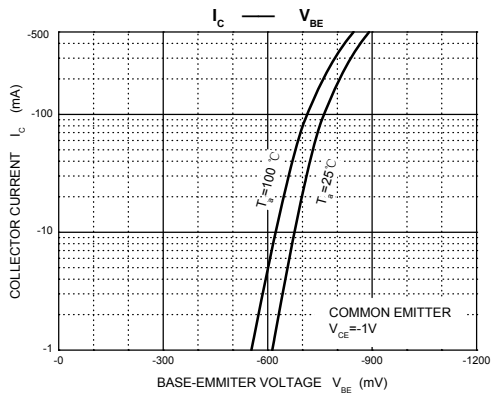
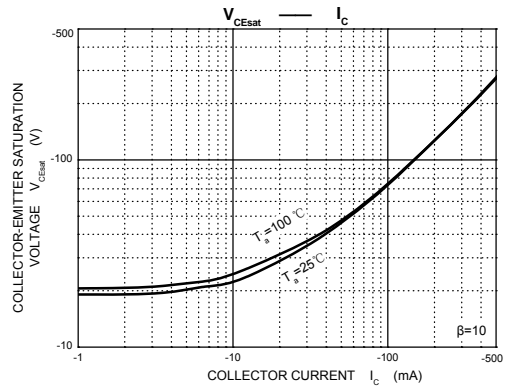
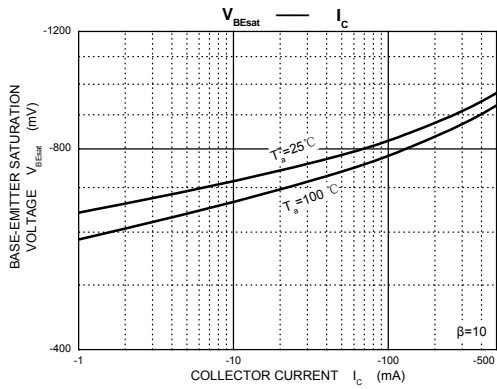
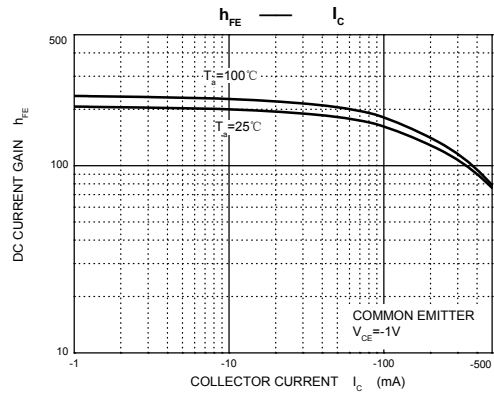
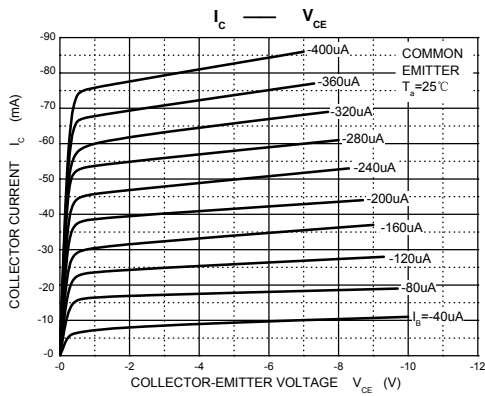
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Collector-base breakdown voltage	$I_c = -100\mu\text{A}$	$V_{(BR)CBO}$	-40			V
Collector-emitter breakdown voltage	$I_c = -1.0\text{mA}$	$V_{(BR)CEO}$	-25			V
Emitter-base breakdown voltage	$I_e = -100\mu\text{A}$	$V_{(BR)EBO}$	-5.0			V
Collector cutoff 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

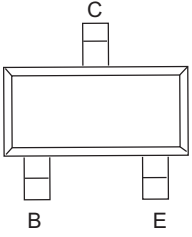
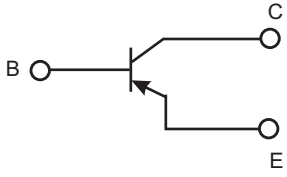
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
DC current gain	$I_c = -100\text{mA}, V_{CE} = -1.0\text{V}$	h_{FE}^{*Note}	100		600	
Collector-emitter saturation voltage	$I_c = -800\text{mA}, I_b = -80\text{mA}$	$V_{CE(sat)}$			-0.5	V

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

Rating and characteristic curves



Pinning information

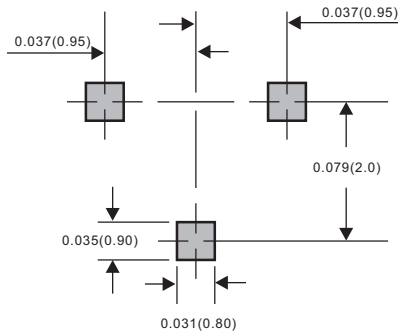
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
S8550-Q1	2TY

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)