

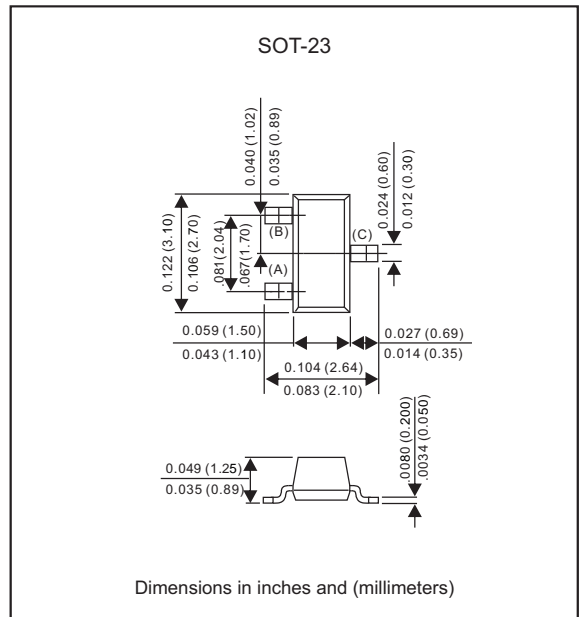
Features

- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : SOT-23

Package outline



Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CB0}	75	V
Collector-Emitter Breakdown Voltage	V _{CEO}	45	V
Emitter-Base Breakdown Voltage	V _{EBO}	5	V
Collector Current (Continuous)	I _C	0.8	A
Peak Pulse Current	I _{CM}	1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ^{*1}	P _D	330	mW
Thermal Resistance Junction to Ambient ^{*1}	R _{θJA}	556	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 25.4mm * 19.05mm * 1.57mm FR4 P.C.B

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	75			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	45			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	7			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 45\text{V}, I_E = 0$			20	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			20	nA
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	160		400	
		$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	110			
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.7	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			2.0	V
Transition Frequency	f_T	$V_{CE} = 10\text{V}, I_C = 20\text{mA}$ $f = 100\text{MHz}$	100			MHz

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

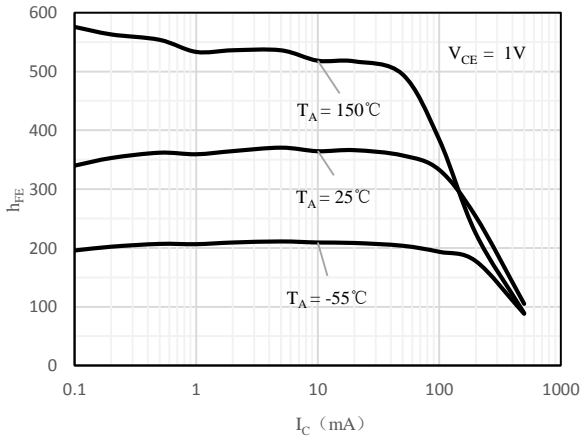


Fig 1 h_{FE} vs. I_C

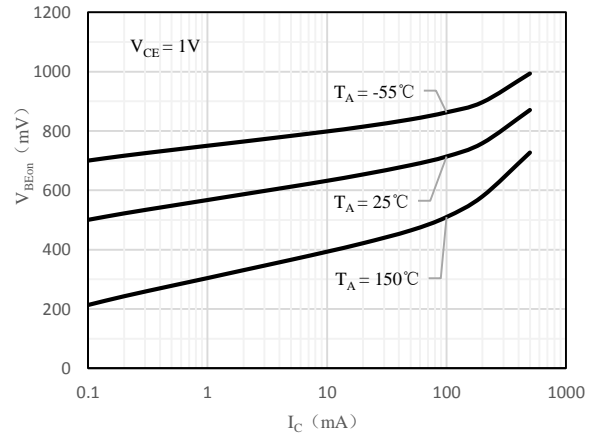


Fig 2 $V_{BE(on)}$ vs. I_C

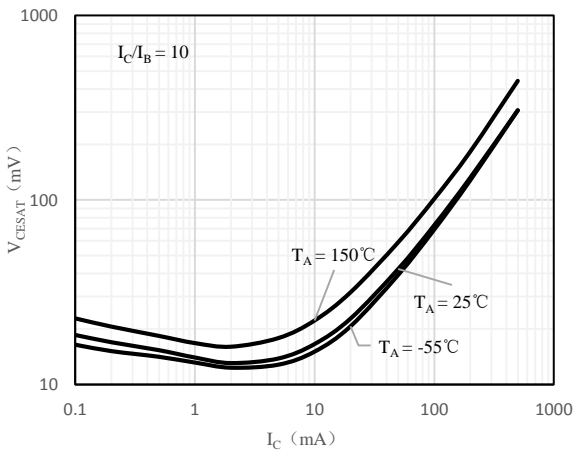


Fig 3 $V_{CE(sat)}$ vs. I_C

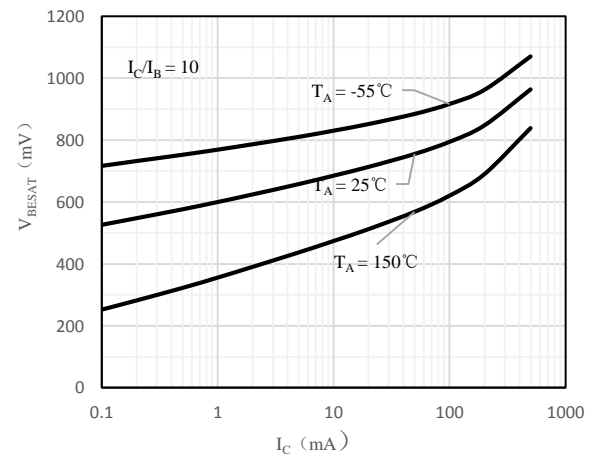
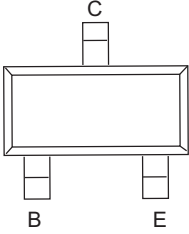
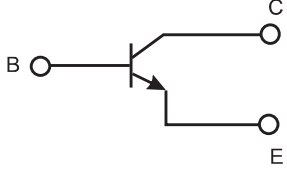


Fig 4 $V_{BE(sat)}$ vs. I_C

Pinning information

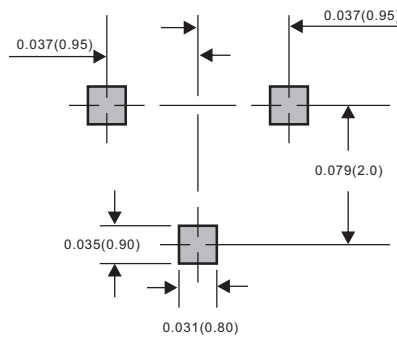
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
BCW66G-Q1	EG

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)