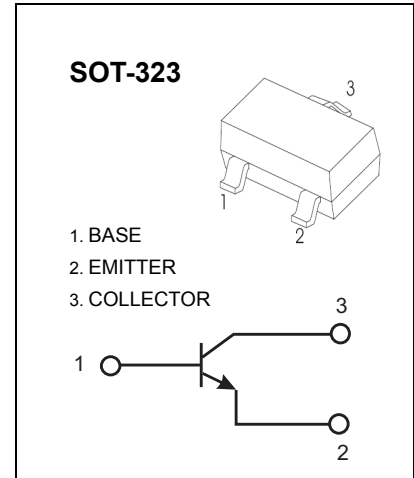


### Features

- High Collector Current
- Excellent HFE Linearity
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-323
- Mounting Position : Any



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

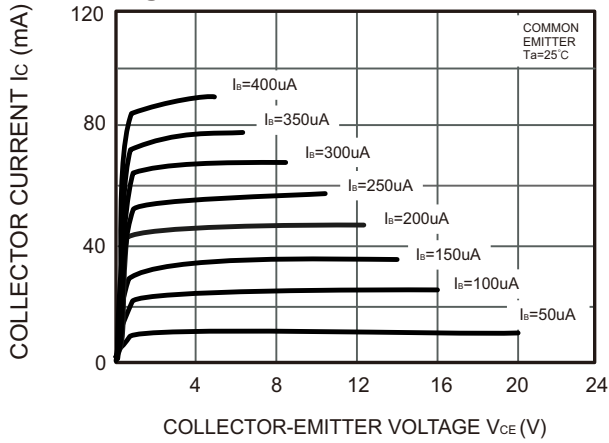
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	25	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	500	mA
$P_C$	Collector Dissipation	300	mW
$T_J, T_{STG}$	Junction and Storage Temperature	-55 to +150	$^{\circ}\text{C}$

### Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

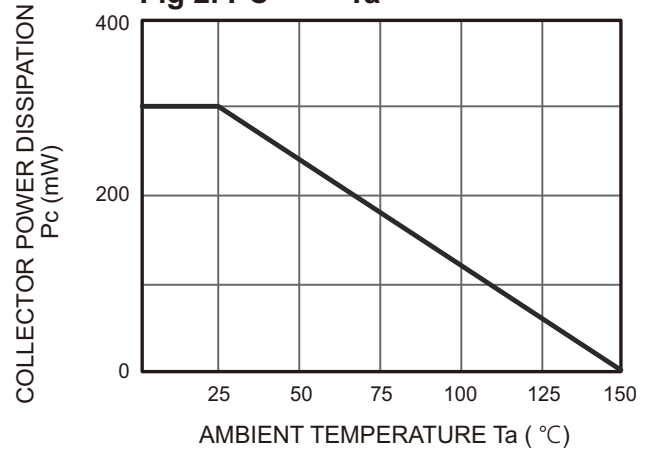
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=40\text{V}, I_E=0$			0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=20\text{V}, I_B=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=1\text{V}, I_C=50\text{mA}$	200		350	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			1.2	V
Transition frequency	$f_T$	$V_{CE}=6\text{V}, I_C=20\text{mA}$ $f=30\text{MHz}$	150			MHz

## Rating and characteristic curves

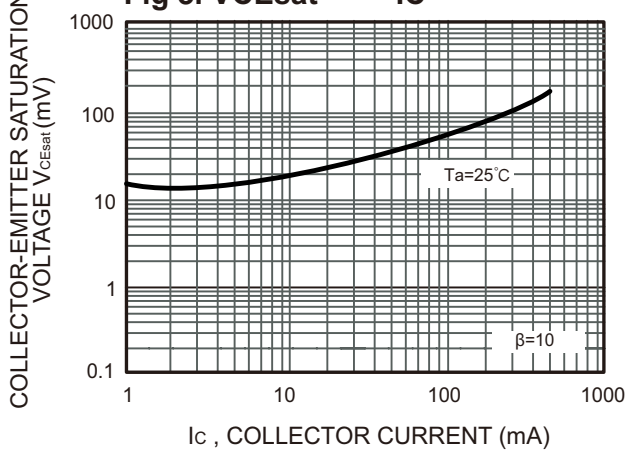
**Fig 1. Static characteristics**



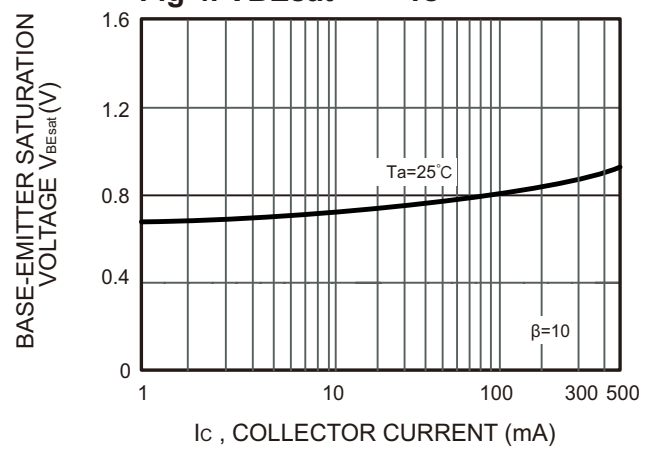
**Fig 2. PC — Ta**



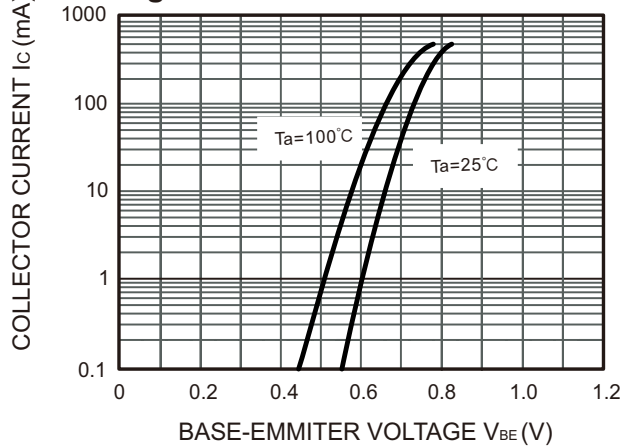
**Fig 3. VCEsat — IC**



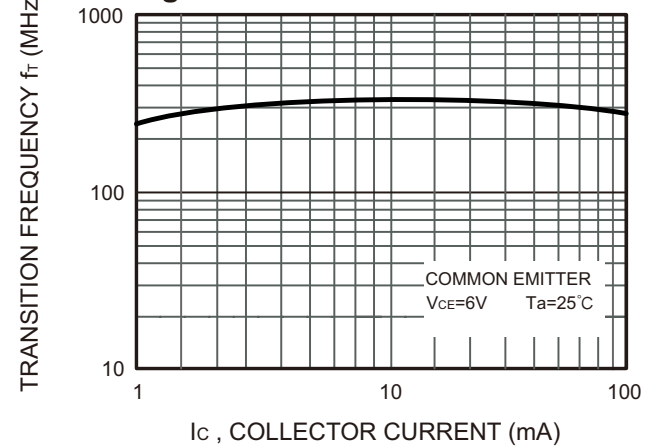
**Fig 4. VBEsat — IC**



**Fig 5. IC — VBE**



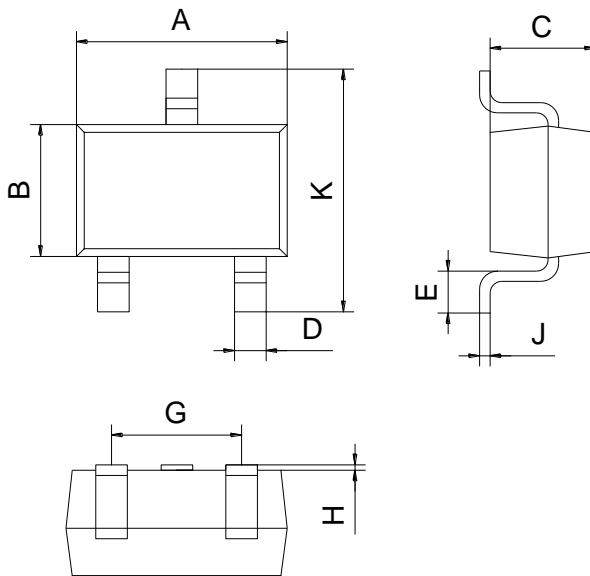
**Fig 6. fT — IC**



## Marking

Type number	Marking code
S8050WH-Q1	J3Y

## SOT-323 Package Outline Dimensions



SOT-323		
Dim	Min	Max
A	1.80	2.20
B	1.15	1.35
C	0.80	1.10
D	0.15	0.40
E	0.425 REF	
G	1.20	1.40
H	0.00	0.10
J	0.05	0.25
K	2.00	2.40
All Dimensions in mm		

## SOT-323 Soldering Footprint (mm)

