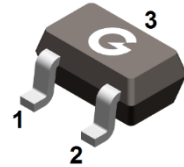
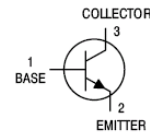


Features

- Epitaxial planar die construction
- Complimentary to T2A1576A
- Ultra-small surface mount package
- Halogen free
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOT-323

Mechanical Data

- Case: SOT-323
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
T2SC4081-Q	SOT-323	3000 pcs / Tape & Reel	BQ
T2SC4081-R	SOT-323	3000 pcs / Tape & Reel	BR
T2SC4081-S	SOT-323	3000 pcs / Tape & Reel	BS

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	60	V
Collector-Emitter Breakdown Voltage	V _{CEO}	50	V
Emitter-Base Breakdown Voltage	V _{EBO}	7	V
Continuous Collector Current	I _C	150	mA
Peak Collector Current	I _{CM}	200	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	250	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	387	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	199	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	264	°C/W
Operating 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 15mm * 15mm * 1mm FR4-epoxy 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	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}$, $I_E = 0$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $I_B = 0$	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}$, $I_C = 0$	7	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60\text{V}$, $I_E = 0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 7\text{V}$, $I_C = 0$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	120	-	560	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_{CE} = 50\text{mA}$, $I_B = 5\text{mA}$	-	-	0.4	V
Base-emitter Voltage	$V_{BE(ON)}$	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	0.5	0.63	0.8	V
Transition Frequency	f_T	$I_C = 2\text{mA}$, $V_{CE} = 12\text{V}$ $f = 100\text{MHz}$	-	180	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 12\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	-	3.5	pF

Classification of h_{FE}

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

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

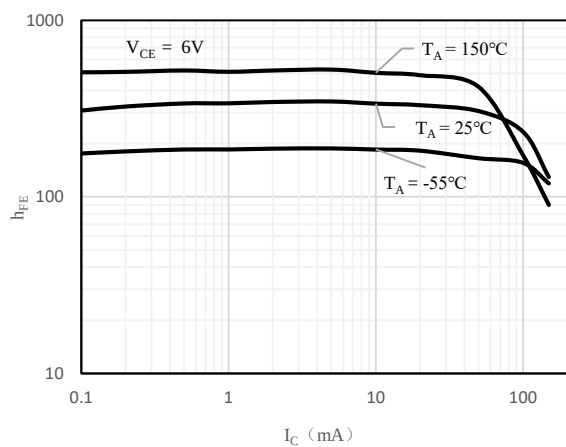


Fig 1 h_{FE} vs. I_C

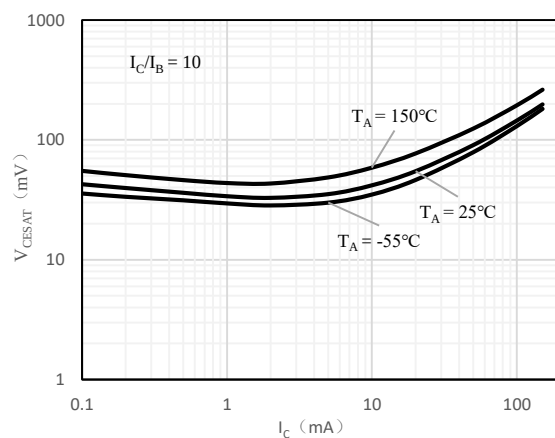


Fig 2 $V_{CE(sat)}$ vs. I_C

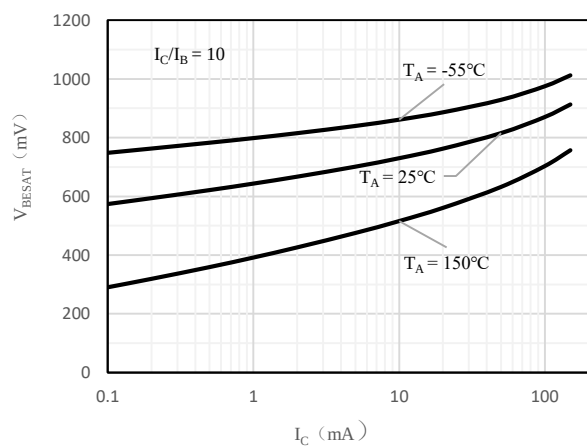


Fig 3 $V_{BE(sat)}$ vs. I_C

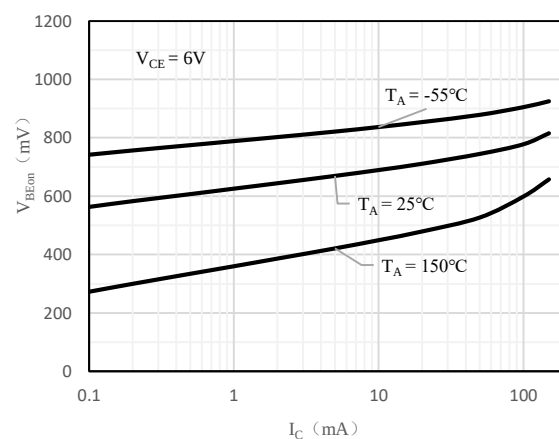
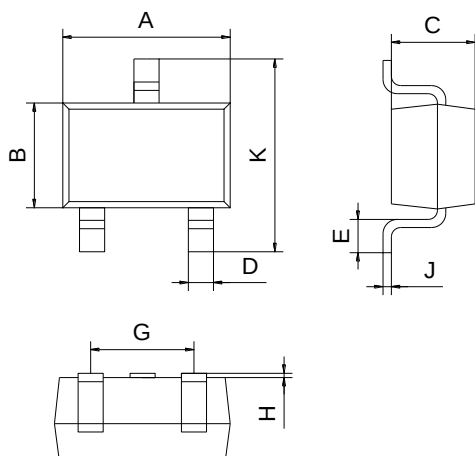


Fig 4 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



SOT-323		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-323

