

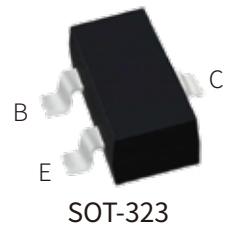
## FEATURES

- | SOT-323 Package

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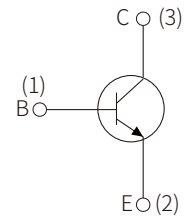
- | Epoxy meets UL-94 V-0 flammability rating and halogen free

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## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003



Schematic Symbol

## MAXIMUM RATINGS (T<sub>A</sub>=25°C )

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	
Emitter-Base Voltage	V <sub>EBO</sub>	7	
Collector Current	I <sub>C</sub>	150	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	625	°C/W
Storage Operation Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~+150	°C

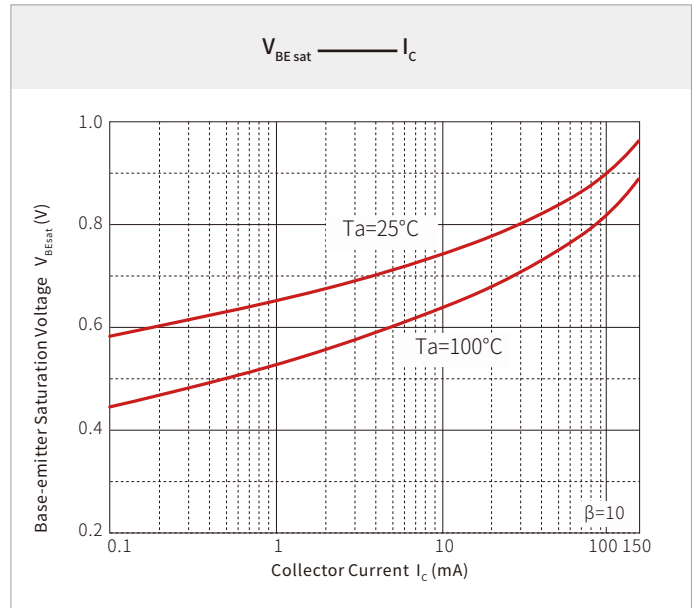
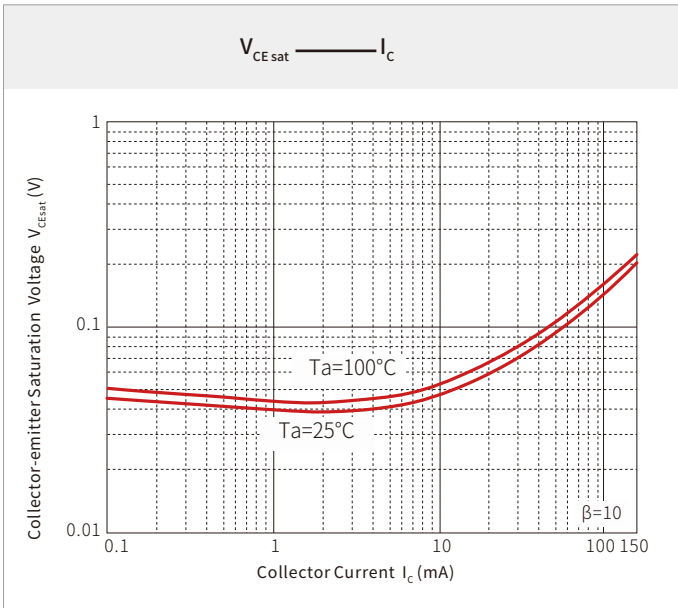
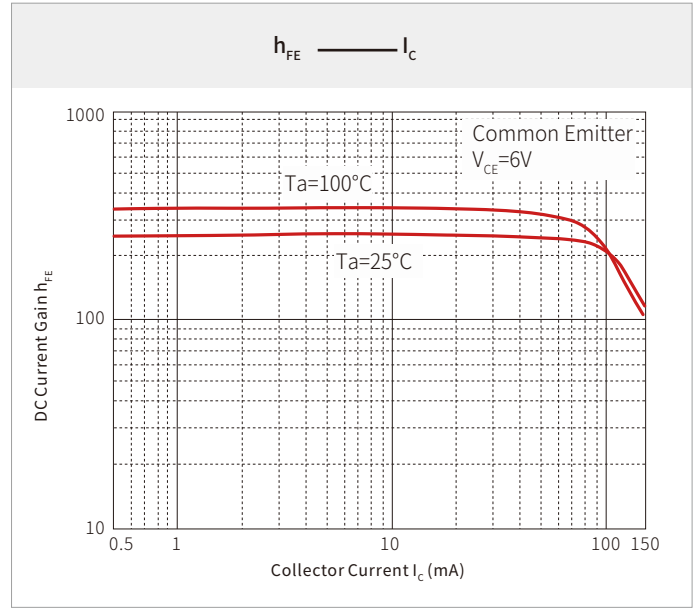
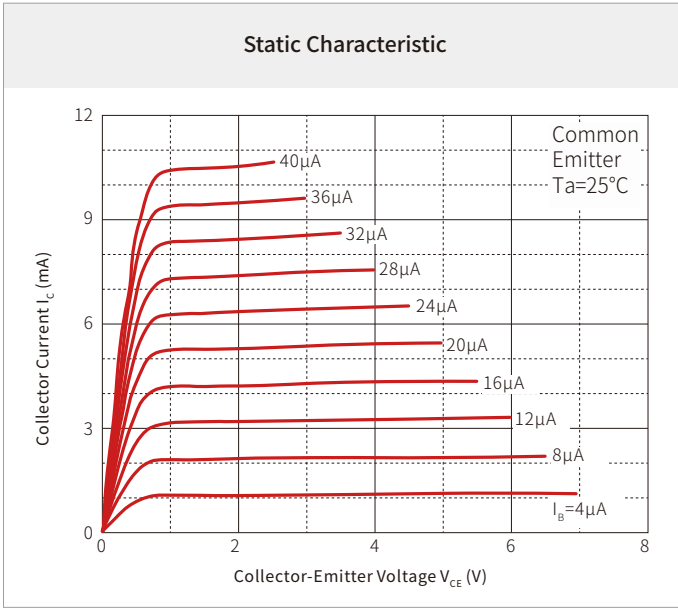
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

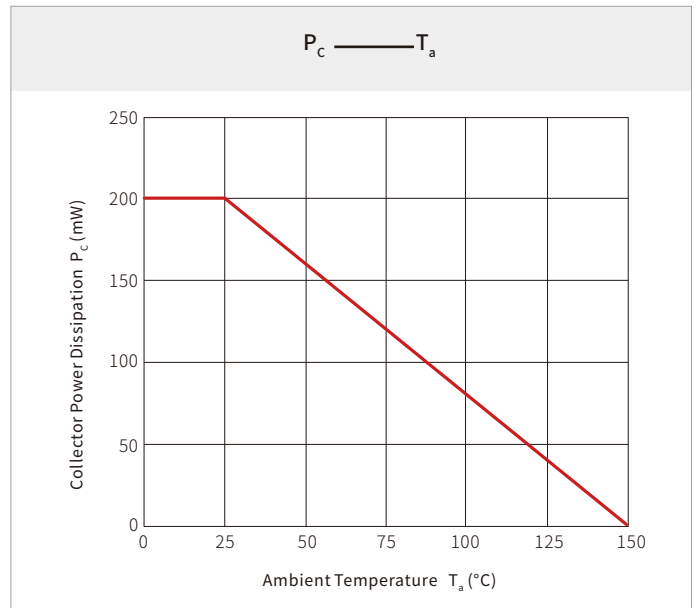
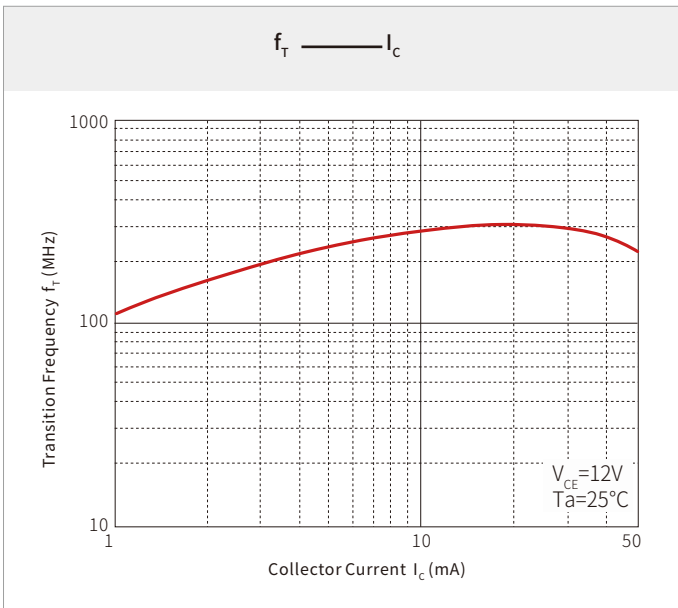
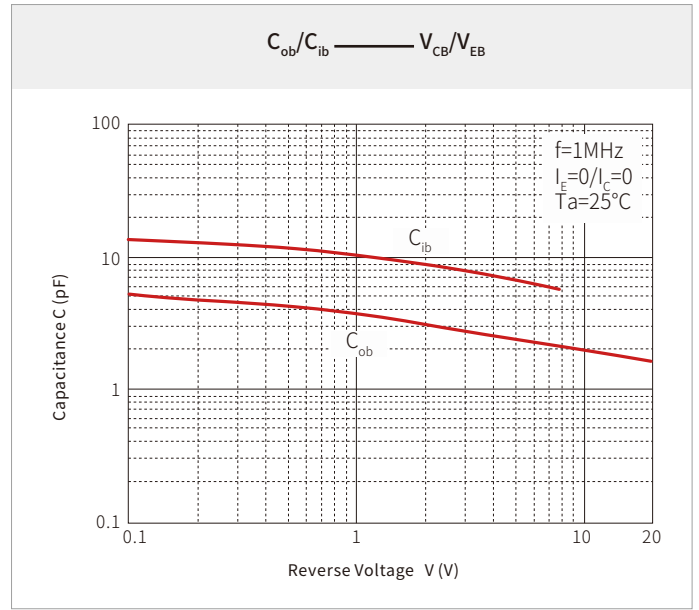
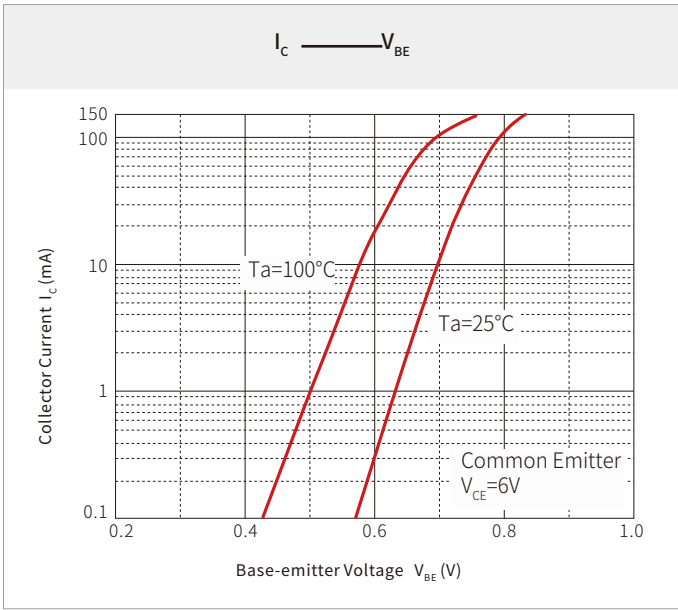
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =50μA, I <sub>E</sub> =0	60			V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	50			
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =50μA, I <sub>C</sub> =0	7			
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0			100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =7V, I <sub>C</sub> =0			100	
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	120		560	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA			0.40	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =12V, I <sub>C</sub> =2mA, f=30MHz		180		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =12V, I <sub>E</sub> =0, f=1MHz			3.5	pF

## CLASSIFICATION OF H<sub>FE(1)</sub>

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

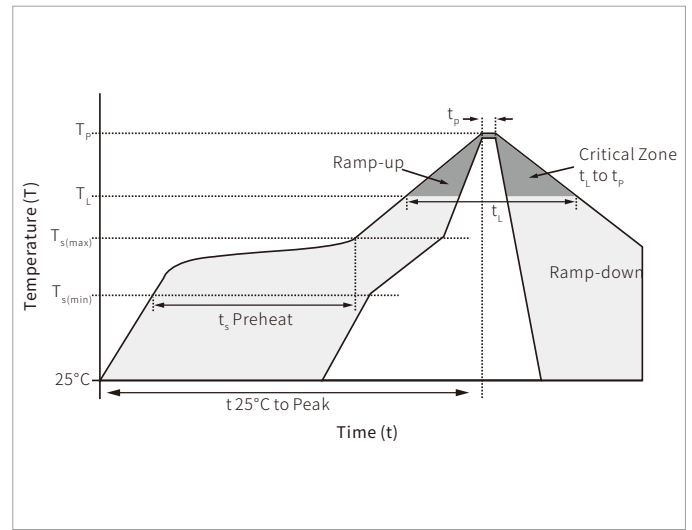
# TYPICAL CHARACTERISTICS



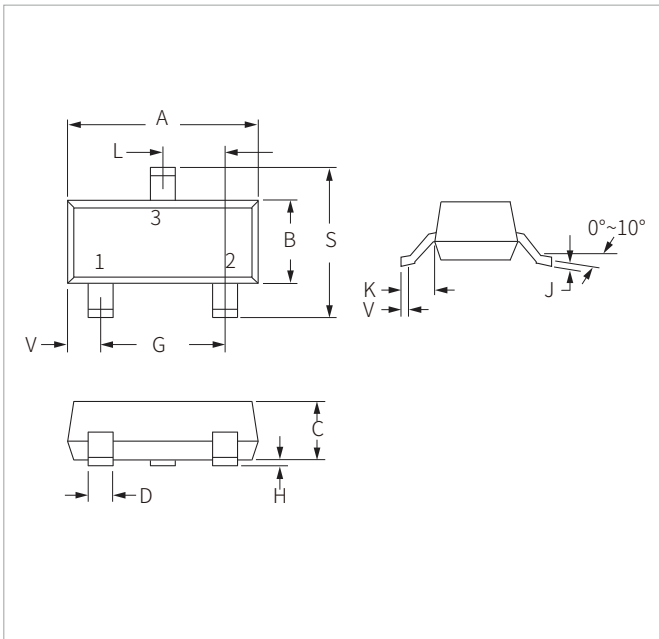


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_i$ ) (Liquidus)	217°C
	Time (min to max) ( $t_i$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C



## SOT-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.90	1.00	0.035	0.039
D	0.20	0.40	0.008	0.016
G	1.20	1.40	0.047	0.055
H	0.00	0.10	0.000	0.004
J	0.08	0.15	0.003	0.006
K	0.525REF		0.021REF	
L	0.650TYP		0.026TYP	
S	2.15	2.45	0.085	0.096
V	0.26	0.46	0.010	0.018

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
2SC4081	SOT-323	3000PCS	7"

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**By QR Code**

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