

FEATURES

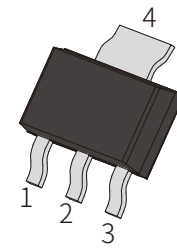
- | High current (max. 1 A)
- | Low voltage (max. 80 V)

APPLICATIONS

- | Telephony and general industrial applications
- | Thick and thin-film circuits

APPROVALS

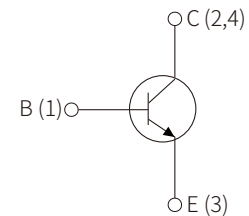
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



SOT-223



Marking



Schematic Symbol

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	100	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	80	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	
Collector Current (Continuous) ^(Note 1)	I_C	1	A
Power Dissipation	P_{tot}	0.625	W
Junction Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

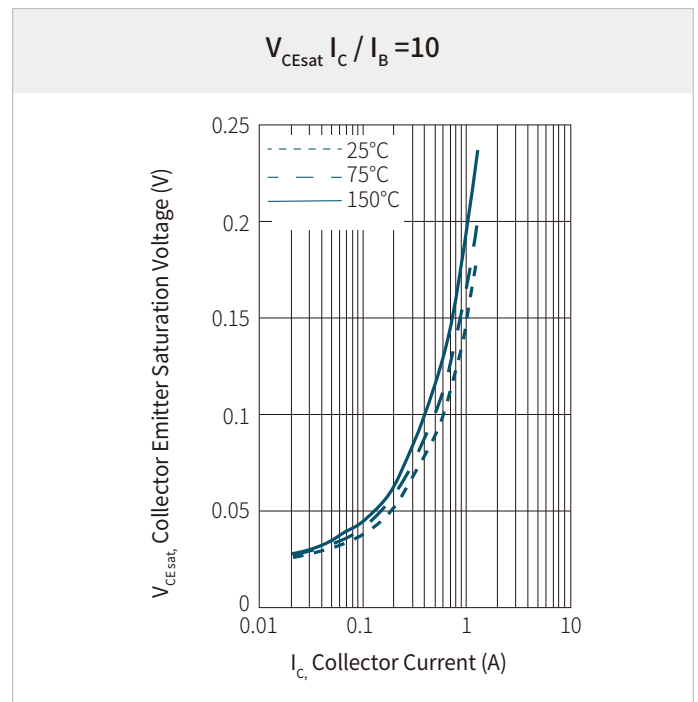
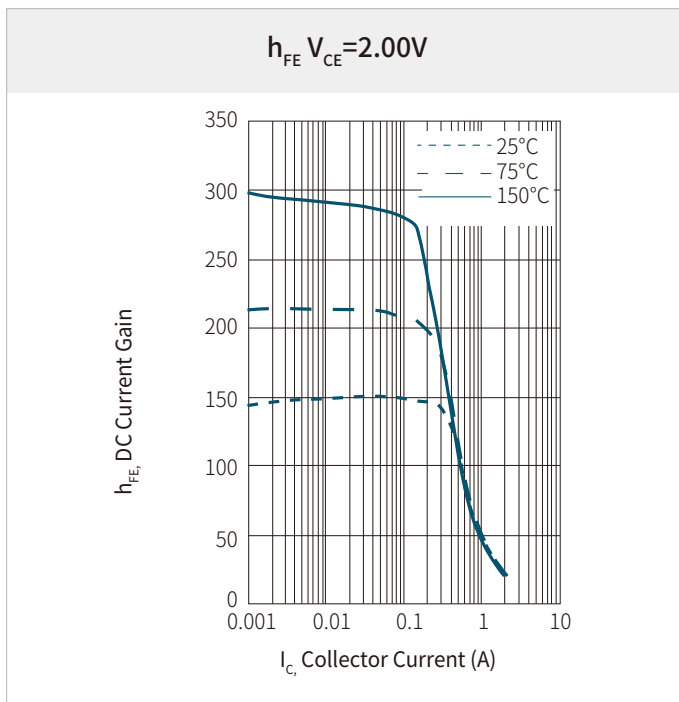
ELECTRICAL CHARACTERISTICS (T_A=25°C)

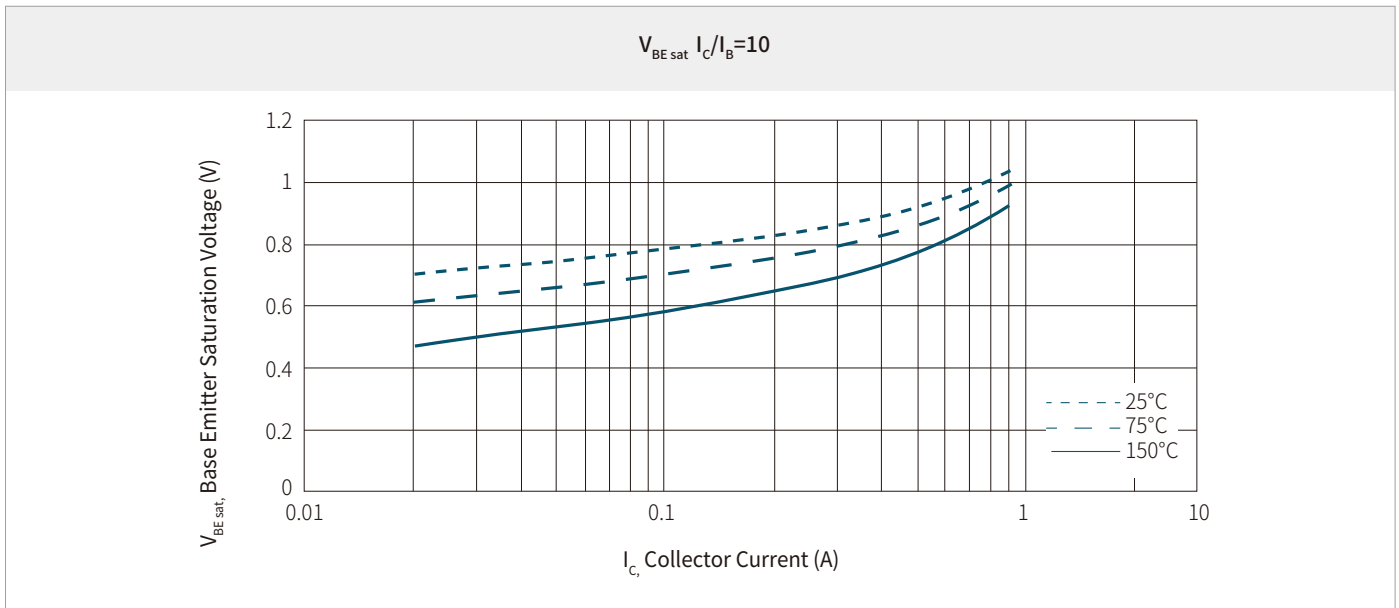
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current ^(Note 2)	I _{CBO}	V _{CB} =80V, I _E =0			0.2	μA
Emitter Cut-off Current ^(Note 2)	I _{EBO}	V _{EB} =6V, I _C =0			0.2	μA
DC Current Gain ^(Note 2)	h _{FE}	V _{CE} =3V, I _C =300mA	60		300	
Collector-Emitter Saturation Voltage ^(Note 2)	V _{CE(sat)}	I _C =500mA, I _B =50mA			0.5	V
Transition Frequency	f _T	V _{CE} =10V, I _C =50mA, f=30MHz	100			MHz

Note:

1. Test pulse width tp<5ms
2. When testing DC parameters, short duration pulses with minimum self-heating effect, pulse width tp≤300μs, duty cycle δ≤2% are used.

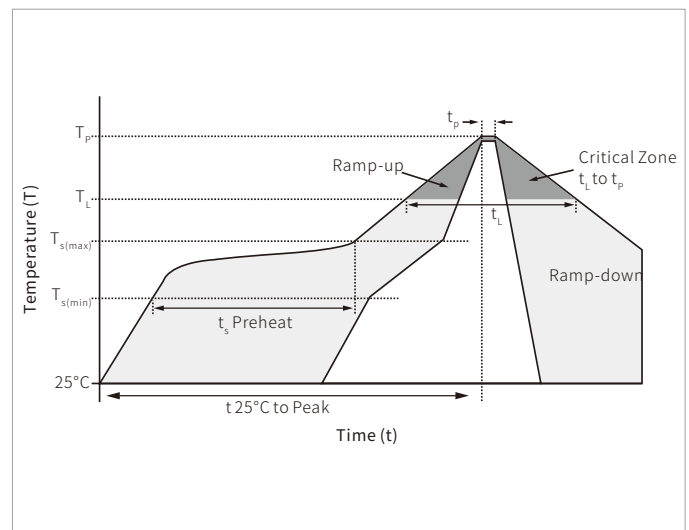
TYPICAL CHARACTERISTICS



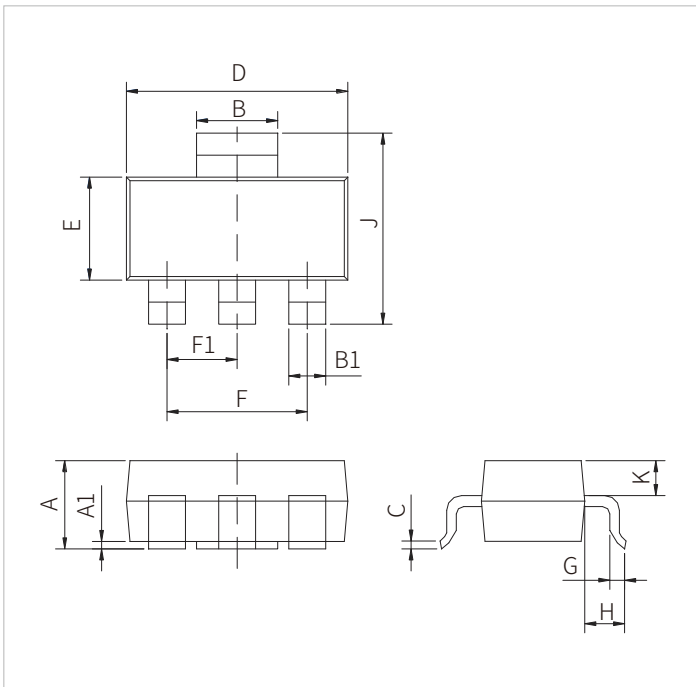


SOLDERING PARAMETERS

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_L) (Liquidus)	217°C
	Time (min to max) (t_L)	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-223 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50		1.80	0.059		0.071
A1	0.01		0.06	0.001		0.002
B	2.90		3.10	0.114		0.122
B1	0.60		0.80	0.024		0.031
C	0.22		0.32	0.009		0.013
D	6.30		6.70	0.248		0.264
E	3.30		3.70	0.130		0.146
F		4.60			0.181	
F1		2.30			0.091	
G	0.70		1.10	0.028		0.043
H	1.50		2.00	0.059		0.079
J	6.70		7.30	0.264		0.287
K		0.90			0.035	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BSP43	SOT-223	2500PCS	13"

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