

FEATURES

- Power Regulator
- Audio Power Amplifier
- Other Electronic Circuits

MECHANICAL DATA

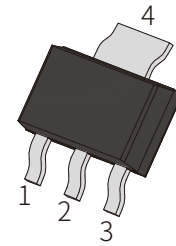
- SOT-223 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any

APPROVALS

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

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

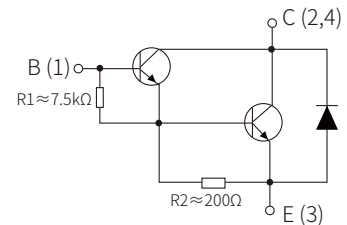
Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	150	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	4	
Collector Current (Continuous)	I_C	2	A
Power Dissipation	P_{tot}	2	W
Junction Temperature Range	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$



SOT-223



Marking

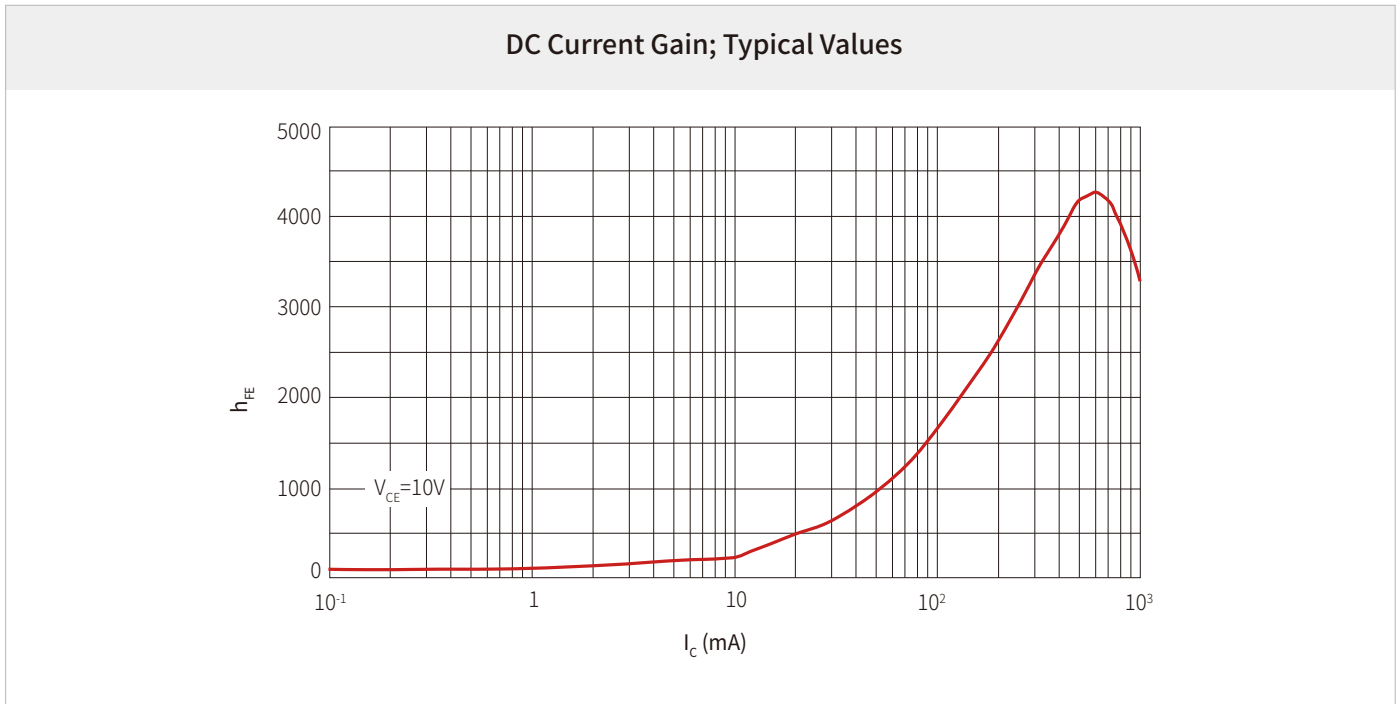


Schematic Symbol

ELECTRICAL CHARACTERISTICS (T_A=25°C)

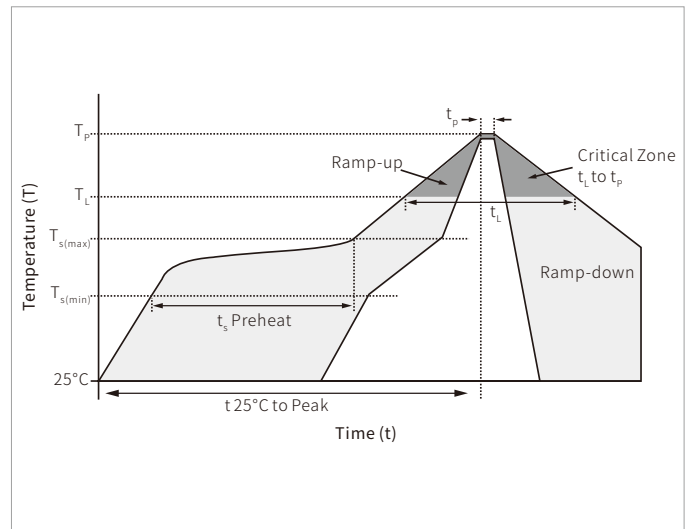
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =0.1mA, I _E =0	150	260		V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =10mA, I _B =0	100	150		
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =1mA, I _C =0	4			
Collector Cutoff Current	I _{CBO}	V _{CB} =150V, I _E =0			1	μA
Collector Cutoff Current	I _{CEO}	V _{CE} =100V, I _B =0			1	
Emitter Cutoff Current	I _{EBO}	V _{EB} =10V, I _C =0		1.3	2.5	mA
DC Current Gain	h _{FE}	V _{CE} =5V, I _C =1A	2000		15000	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =3A, I _B =12mA		1.2	1.8	V

TYPICAL CHARACTERISTICS

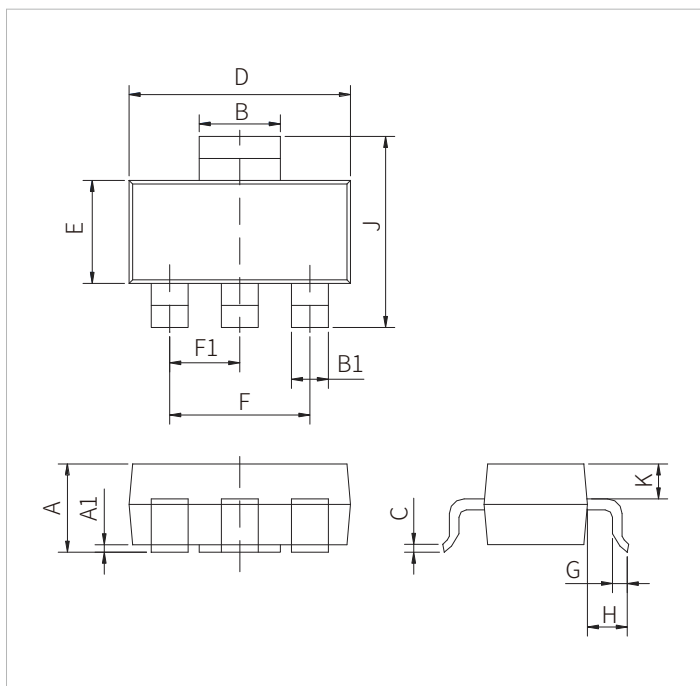


SOLDERING PARAMETERS

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
BSP52	SOT-223	2500PCS	13"

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