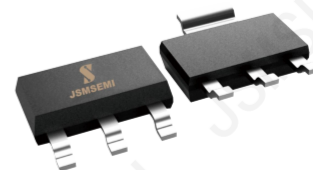


Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage



SOT-223

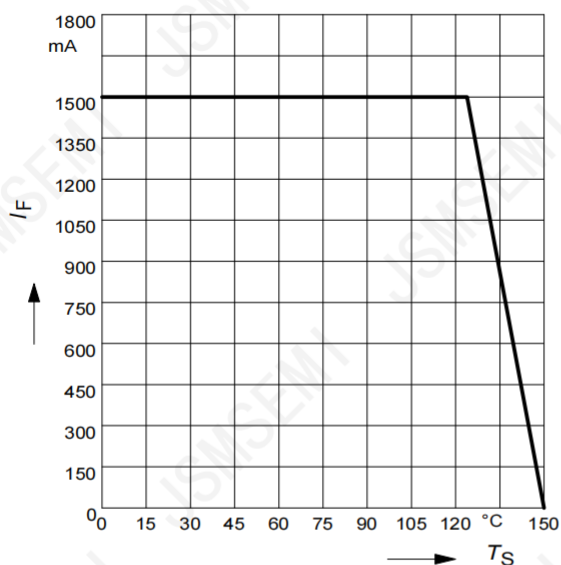
Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Rating	Unit
collector-base voltage	V_{CB0}	100	V
collector-emitter voltage	V_{CEO}	80	V
emitter-base voltage	V_{EB0}	5	V
collector current (DC)	I_C	1	A
peak collector current ($t_p < 5\text{ms}$)	I_{CM}	1.5	A
power dissipation	P_D	1.5	W
thermal resistance from junction to ambient	$R_{\theta JA}$	94	$^{\circ}\text{C/W}$
junction temperature	T_j	150	$^{\circ}\text{C}$
storage temperature	T_{stg}	-65 to +150	$^{\circ}\text{C}$

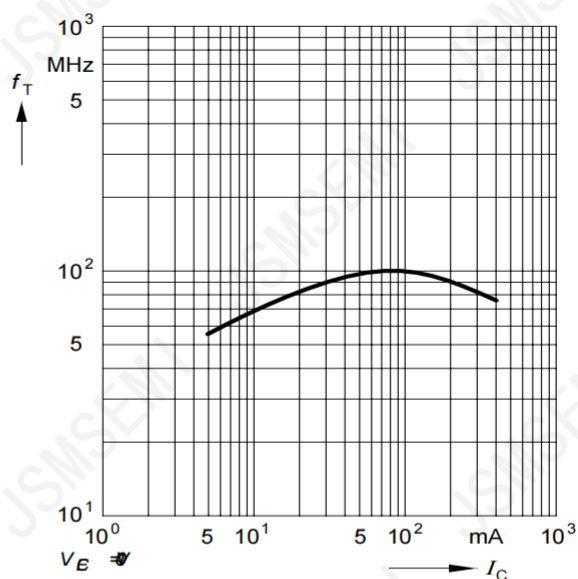
Electrical Characteristics $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_E = 0$	100			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	80			
Base-emitter breakdown voltage	$V_{(BR)EBO}$	$I_C = 10\mu\text{A}, I_E = 0$	5			
Collector cut-off current	I_{CBO}	$I_E = 0\text{A}; V_{CB} = 30\text{V}$			100	nA
Emitter cut-off current	I_{EBO}	$I_C = 0\text{A}; V_{EB} = 5\text{V}$			100	nA
DC current gain	h_{FE}	$I_C = 5\text{mA}; V_{CE} = 2\text{V}$	25			
		$I_C = 150\text{mA}; V_{CE} = 2\text{V}$	100		250	
		$I_C = 500\text{mA}; V_{CE} = 2\text{V}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}; I_B = 50\text{mA}$			0.5	V
Transition frequency	f_T	$I_C = 10\text{mA}; V_{CE} = 5\text{V}; f = 100\text{MHz}$		130		MHz

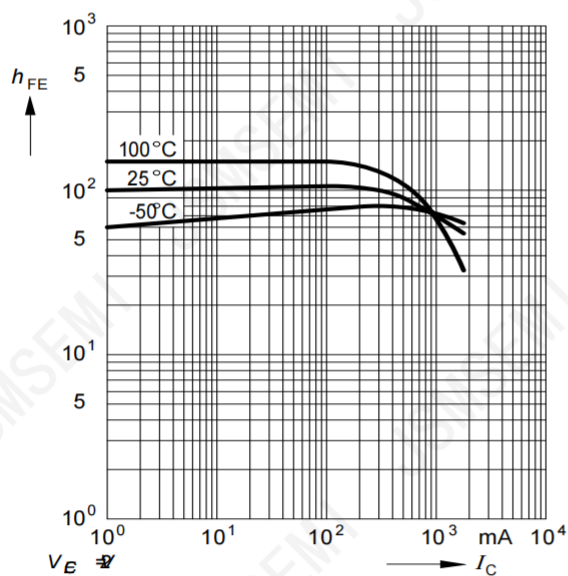
Typical Characteristics



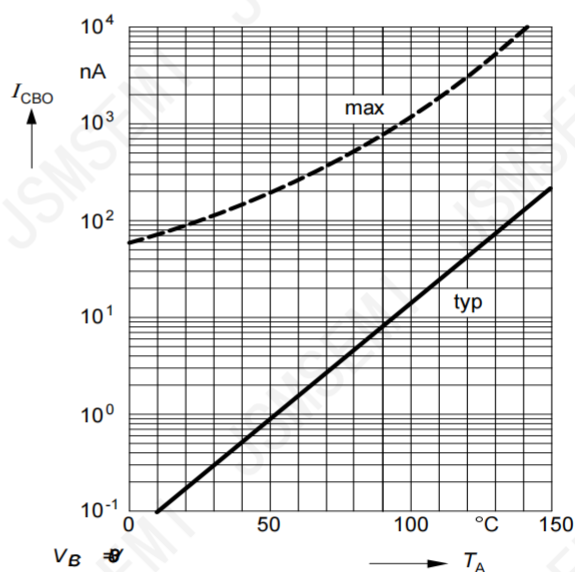
Total power dissipation $P_{\text{tot}} = f(T_S)$



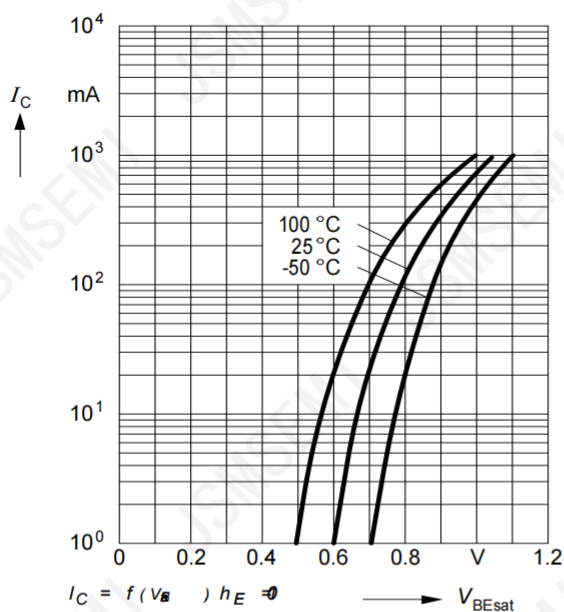
Transition frequency $f_T = f(I_C)$



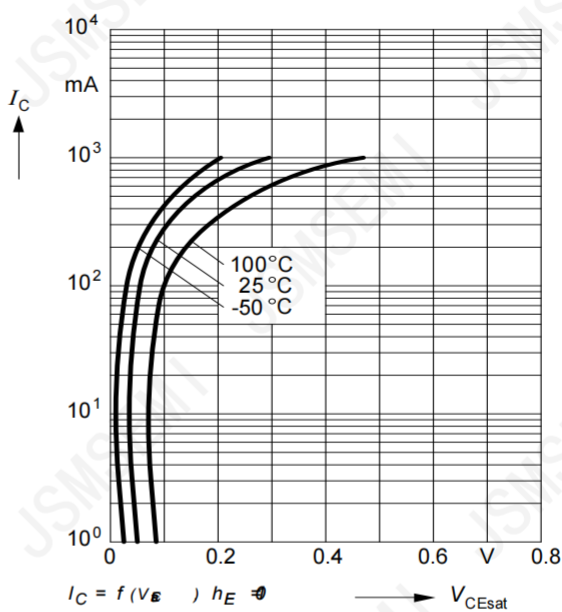
DC current gain $h_{FE} = f(I_C)$



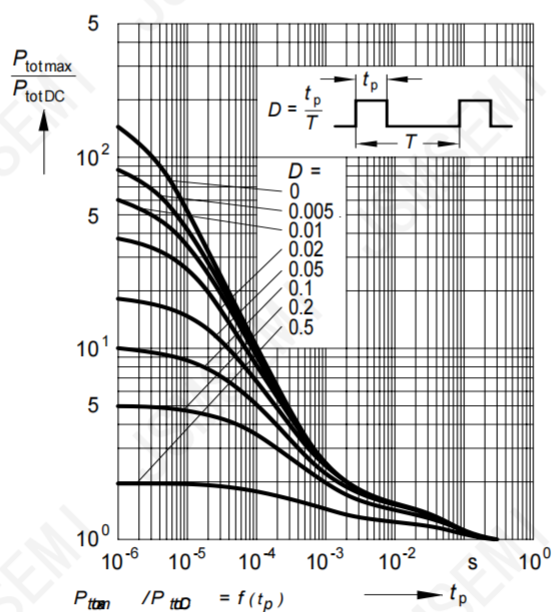
Collector cutoff current $I_{CBO} = f(T_A)$



Base-emitter saturation voltage



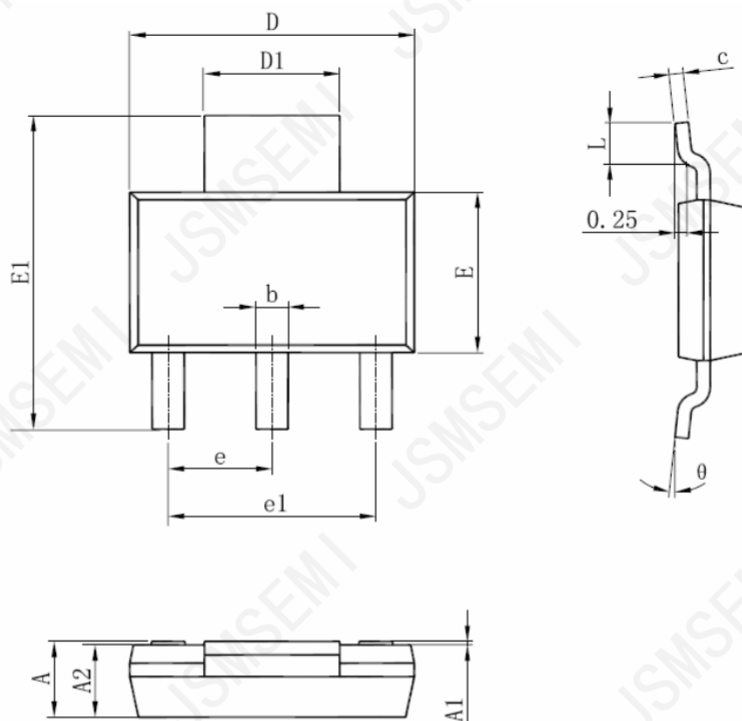
Collector-emitter saturation voltage



Permissible pulse load

Package Information

SOT-223



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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