

**■ Features**

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

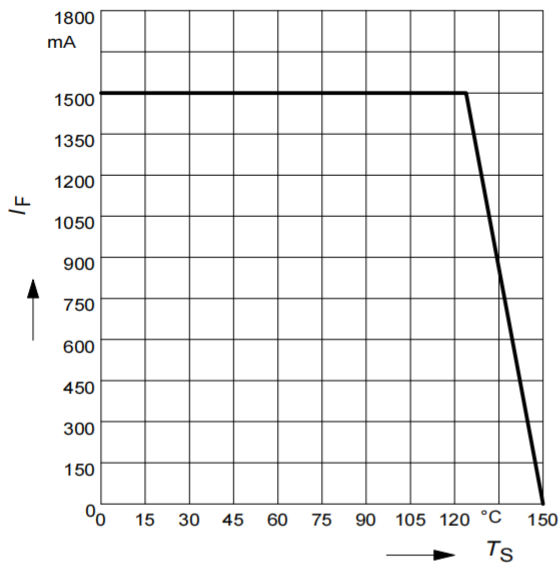

**■ Absolute Maximum Ratings Ta = 25°C**

Parameter	Symbol	Rating	Unit
collector-base voltage	V <sub>CB0</sub>	100	V
collector-emitter voltage	V <sub>CEO</sub>	80	V
emitter-base voltage	V <sub>EBO</sub>	5	V
collector current (DC)	I <sub>C</sub>	1	A
peak collector current (t <sub>p</sub> < 5ms)	I <sub>CM</sub>	1.5	A
power dissipation	P <sub>D</sub>	1.5	W
thermal resistance from junction to ambient	R <sub>θJA</sub>	94	°C/W
junction temperature	T <sub>J</sub>	150	°C
storage temperature	T <sub>stg</sub>	-65 to +150	°C

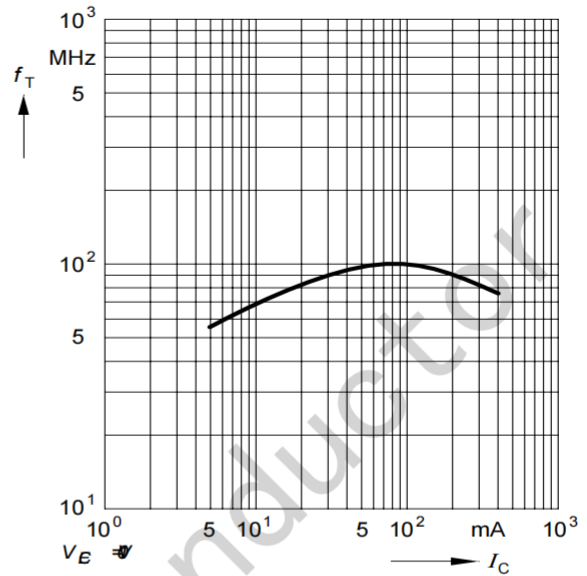
**■ Electrical Characteristics Ta = 25°C**

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 0.1mA, I <sub>E</sub> = 0	100			
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	80			
Base-emitter breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	5			
Collector cut-off current	I <sub>CBO</sub>	I <sub>E</sub> = 0 A; V <sub>CB</sub> = 30 V			100	nA
Emitter cut-off current	I <sub>EBO</sub>	I <sub>C</sub> = 0 A; V <sub>EB</sub> = 5 V			100	nA
DC current gain	h <sub>FE</sub>	I <sub>C</sub> = 5 mA; V <sub>CE</sub> = 2 V	25			
		I <sub>C</sub> = 150 mA; V <sub>CE</sub> = 2 V	100		250	
		I <sub>C</sub> = 500 mA; V <sub>CE</sub> = 2 V	25			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 500mA; I <sub>B</sub> = 50 mA			0.5	V
Transition frequency	f <sub>T</sub>	I <sub>C</sub> = 10 mA; V <sub>CE</sub> = 5 V; f = 100 MHz		130		MHz

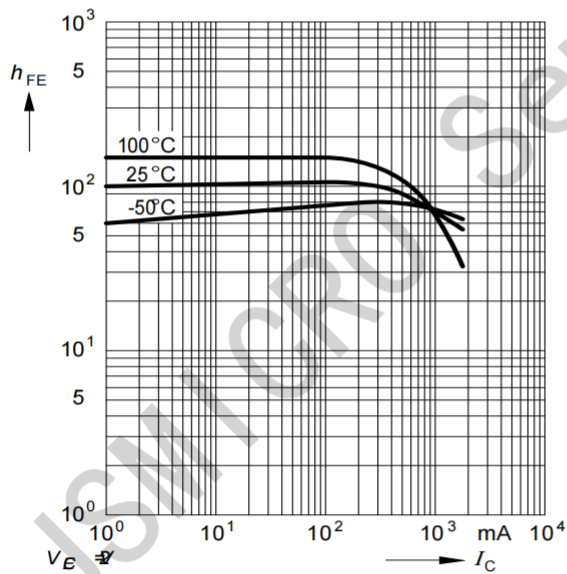
■ Typical Characteristics



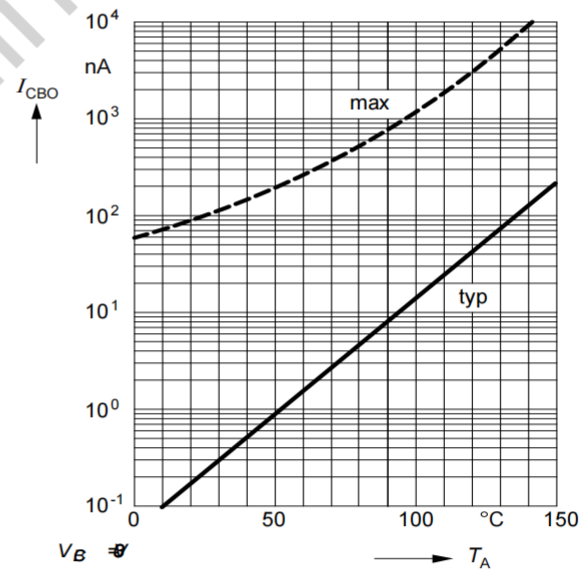
Total power dissipation  $P_{tot} = f(T_S)$



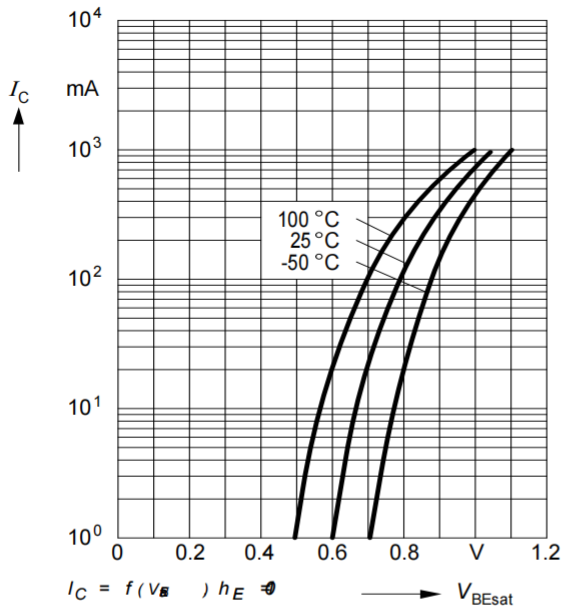
Transition frequency  $f_T = f(I_C)$



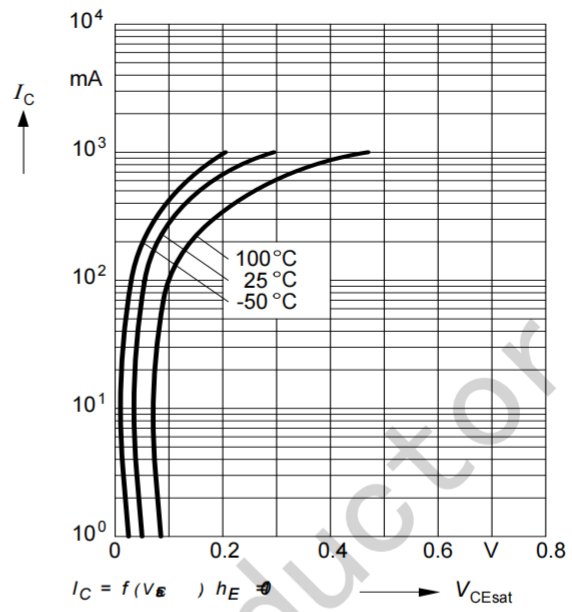
DC current gain  $h_{FE} = f(I_C)$



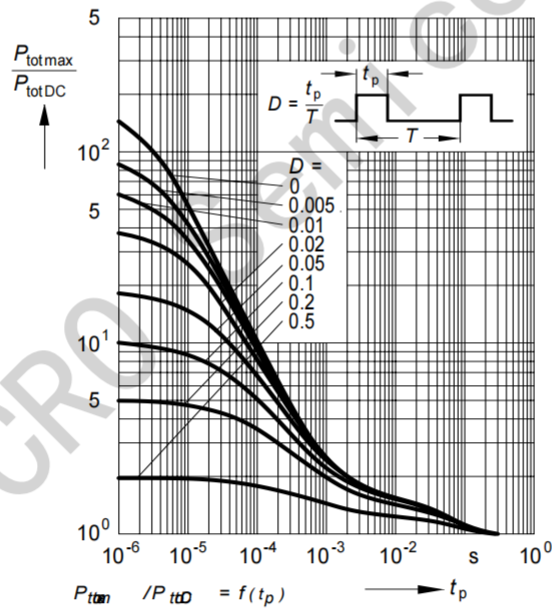
Collector cutoff current  $I_{CBO} = f(T_A)$



Base-emitter saturation voltage



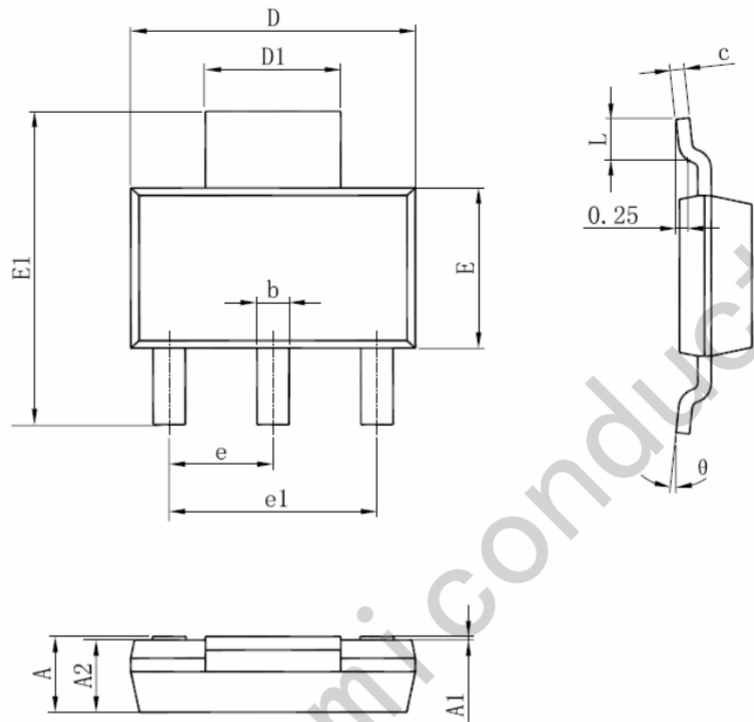
Collector-emitter saturation voltage



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°

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