PBSS4350Z

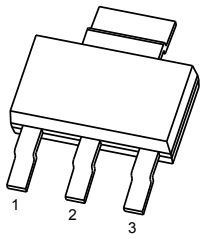
SOT-223 Plastic-Encapsulate Transistors

TRANSISTOR(NPN)

FEATURES

- High Voltage
- Low saturation voltages

SOT-223



1. BASE
2. COLLECTOR
3. EMITTER

MARKING: PB4350

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbols		Value	Units
Collector-Base Voltage	VCBO		60	V
Collector-Emitter Voltage	VCEO		50	V
Emitter -Base Voltage	VEBO		6	V
Collector Current-Continuous	IC		3	A
Peak Collector Current,single pulse;tp≤1ms	ICM		5	A
Collector Power Dissipation	PC	(Note1)	1.35	W
		(Note2)	2	
Junction Temperature	Tj		150	℃
Ambient temperature	Tamb		-65-+150	℃
Storage Temperature	Tstg		-65-+150	℃
Thermal resistance from junction to ambient	RθJA	(Note1)	92	℃/W
		(Note2)	62.5	

Note:

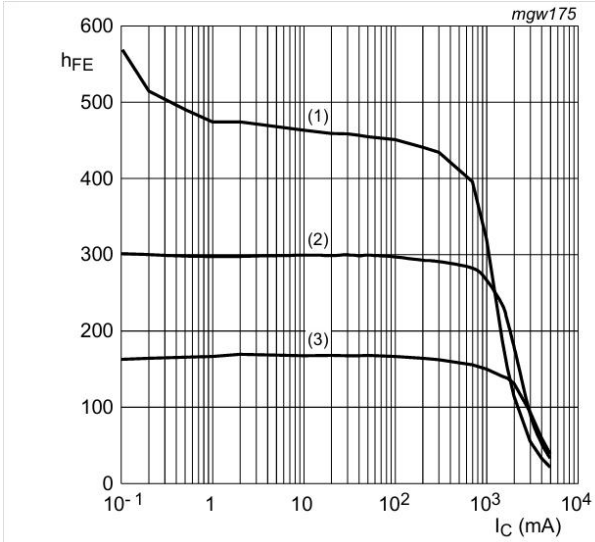
1.Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for collector 1 cm^2 .

2.Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for collector 6 cm^2 .

Electrical Characteristics(Ta=25℃ unless otherwise noted)

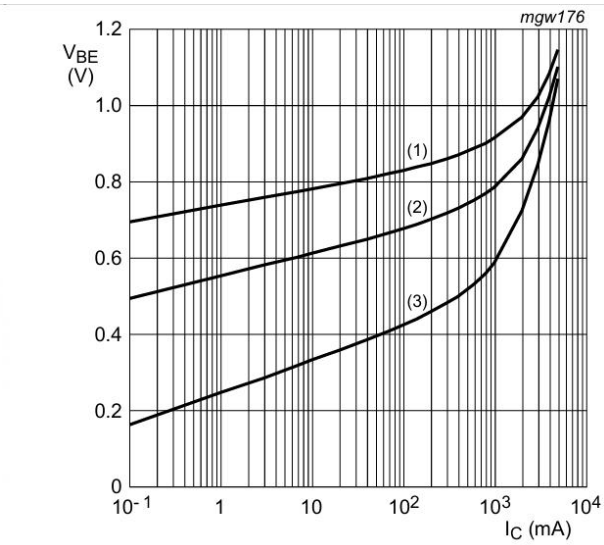
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=100uA, IE=0	60			V
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	50			V
Emitter-base breakdown voltage	V(BR)EBO	IE=100uA, IC=0	6			V
Collector cut-off current	ICBO	VCB=50V, IE=0			100	nA
		VCB=50V, IE=0, Tj=150℃			50	uA
Emitter cut-off current	IEBO	VEB=5V, IC=0			100	nA
DC current gain	hFE1	VCE=2V, IC=500mA	200			
	hFE2	VCE=2V, IC=1A	200			
	hFE3	VCE=2V, IC=2A	100			
Collector-emitter saturation voltage	VCE(sat)	IC=500mA, IB=50mA			90	mV
		IC=1A, IB=50mA			170	
		IC=2A, IB=200mA			290	
Collector-emitter saturation resistance	RCE(sat)	IC=2A, IB=200mA		110	145	mΩ
Base -emitter saturation voltage	VBE(sat)	IC=2A, IB=200mA			1.2	V
Base -emitter turn-on voltage	VBE(on)	VCE=2V, IC=1A			1.1	V
Transition frequency	fT	VCE=5V,IC=100mA,f=100MHz	100			MHz
Collector capacitance	Cc	VCB=10V, IE=0; ie=0A, f=1MHz			30	pF

Typical Characteristics



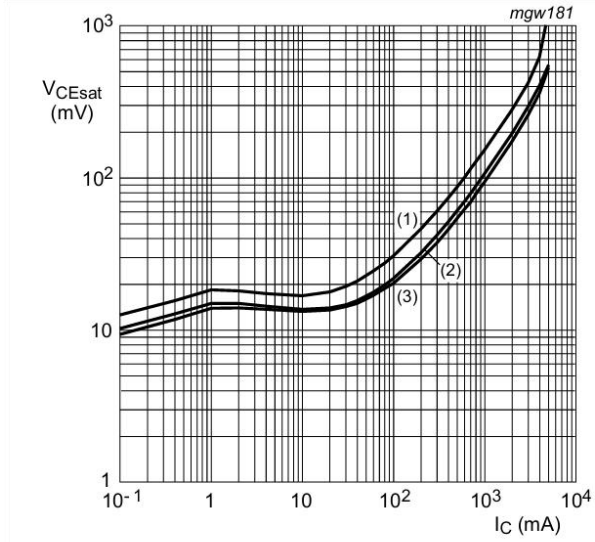
V_{CE} = 2 V
(1) T_{amb} = 150 °C
(2) T_{amb} = 25 °C
(3) T_{amb} = −55 °C

Fig. 1. DC current gain; typical values



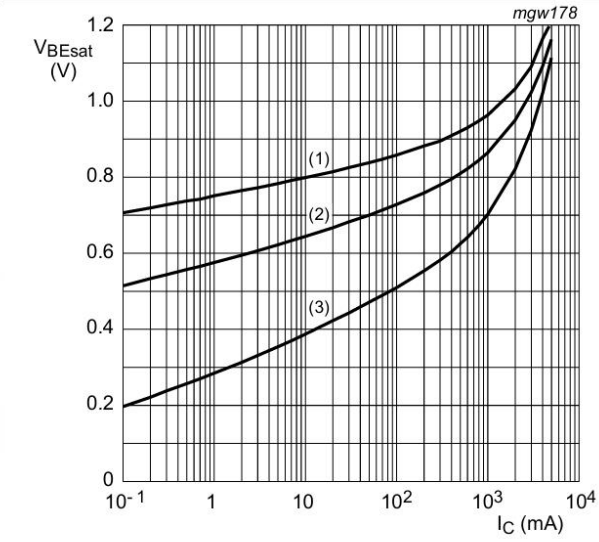
V_{CE} = 2 V
(1) T_{amb} = −55 °C
(2) T_{amb} = 25 C
(3) T_{amb} = 150 °C

Fig. 2. Base-emitter voltage as a function of collector-current; typical values



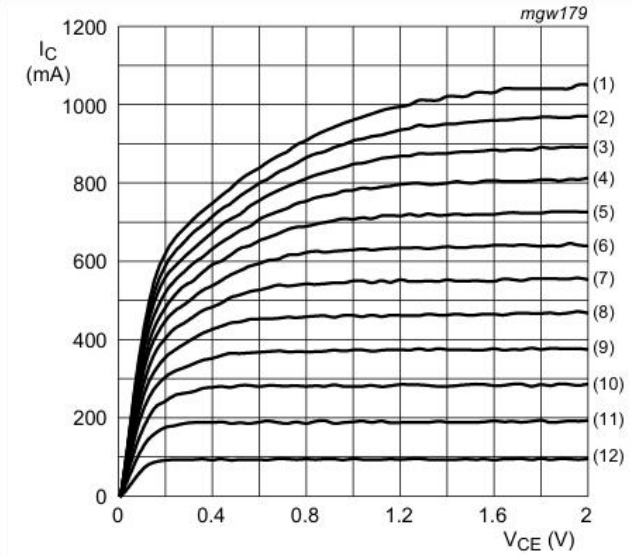
I_C/I_B = 20
(1) T_{amb} = 150 °C
(2) T_{amb} = 25 °C
(3) T_{amb} = −55 °C

Fig. 3. Collector-emitter saturation as a function of collector current; typical values.



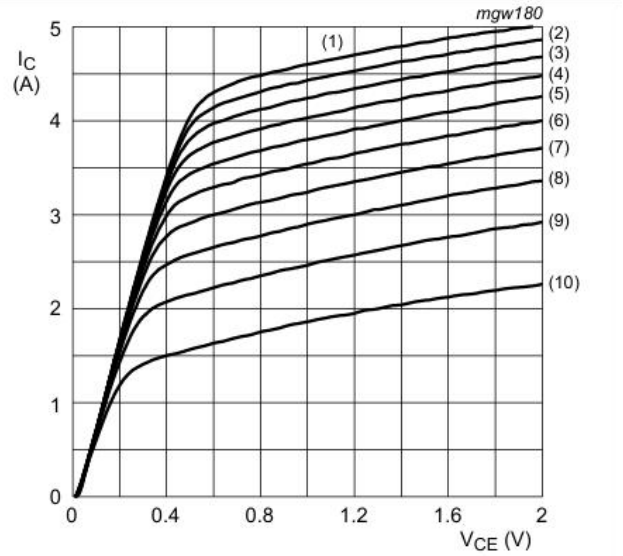
I_C/I_B = 20
(1) T_{amb} = 150 °C
(2) T_{amb} = 25 °C
(3) T_{amb} = −55 °C

Fig. 4. Base-emitter saturation voltage as a function of collector current; typical values



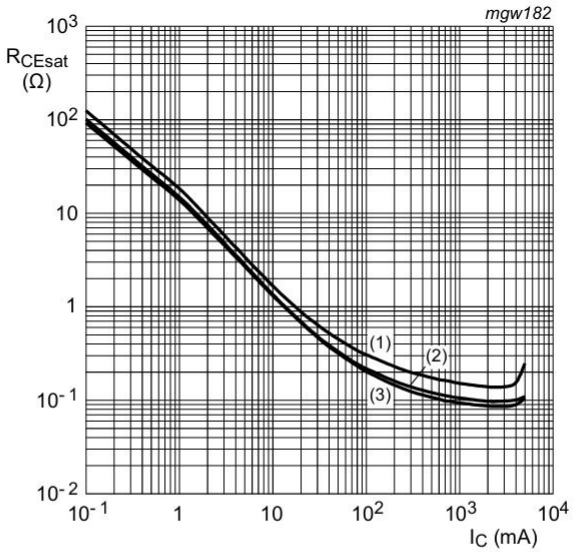
T_{amb} = 25 °C
(1) I_B = 3.96 mA
(2) I_B = 3.63 mA
(3) I_B = 3.30 mA
(4) I_B = 2.97 mA
(5) I_B = 2.64 mA
(6) I_B = 2.31 mA
(7) I_B = 1.98 mA
(8) I_B = 1.65 mA
(9) I_B = 1.32 mA
(10) I_B = 0.99 mA
(11) I_B = 0.66 mA
(12) I_B = 0.33 mA

Fig. 5. Collector current as a function of collector-emitter voltage; typical values



T_{amb} = 25 °C
(1) I_B = 150 mA
(2) I_B= 135 mA
(3) I_B = 120 mA
(4) I_B = 105 mA
(5) I_B = 90 mA
(6) I_B = 75 mA
(7) I_B = 60 mA
(8) I_B = 45 mA
(9) I_B = 30 mA
(10) I_B = 15 mA

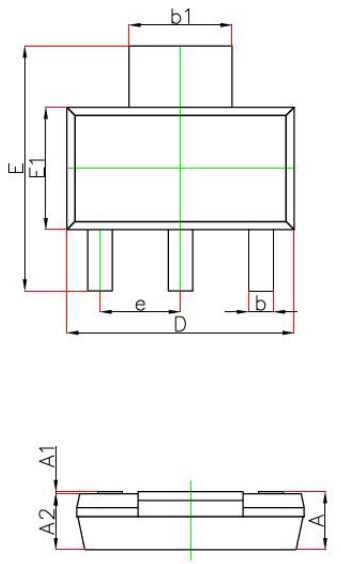
Fig. 6. Collector current as a function of collector-emitter voltage; typical values.



I_C/I_B = 20
(1) T_{amb} = 150 °C
(2) T_{amb} = 25 °C
(3) T_{amb} = −55 °C

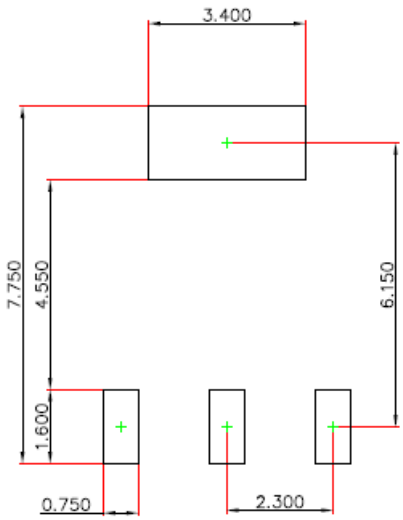
Fig. 7. Collector-emitter equivalent on-resistance as a function of collector current; typical values

SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	——	1.800	——	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	——	0.030	——
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.050mm.
3.The pad layout is for reference purposes only.

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