



**DESCRIPTION**

The PBSS5350Z is available in SOT-223 package.

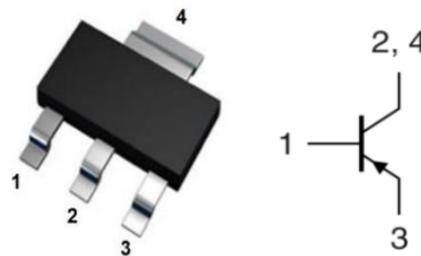
**FEATURE**

- Low collector-to-emitter saturation voltage.
- Fast switching speed.
- Large current capacity and wide ASO.

**ORDERING INFORMATION**

Package Type	Part Number
SOT-223	PBSS5350Z
Note - 7" Reel	SPQ: 2,500pcs/Reel
AiT provides all RoHS Compliant Products	

**PIN DESCRIPTION**



PIN#	DESCRIPTION
1	BASE
2	COLLECTOR
3	EMITTER
4	COLLECTOR

**ABSOLUTE MAXIMUM RATINGS**

T<sub>A</sub> = 25°C, unless otherwise noted.

V <sub>CEO</sub> , Collector–Emitter Voltage	-50V
V <sub>CBO</sub> , Collector–Base Voltage	-60V
V <sub>EBO</sub> , Emitter–Base Voltage	-6V
I <sub>C</sub> , Collector Current — Continuous	-3A
I <sub>CP</sub> , Collector Current — Pulse	-6A
P <sub>D</sub> , Total Device Dissipation,FR-4 Board (Note 1) @ TA = 25°C	833mW
R <sub>θJA</sub> , Thermal Resistance, Junction–to–Ambient(Note 1)	150°C/W
T <sub>J</sub> , Junction Temperature Range	-55°C~+150°C
T <sub>STG</sub> , Storage Temperature Range	-55°C~+150°C

1.30.0mm×25.0mm×1.6mm(FR4), Copper foil thickness 35µm

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**ELECTRICAL CHARACTERISTICS**T<sub>A</sub> = 25°C, unless otherwise noted.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage	V <sub>BR(CEO)</sub>	I <sub>C</sub> = -1mA, I <sub>B</sub> = 0	-50	-	-	V
Collector–Base Breakdown Voltage	V <sub>BR(CBO)</sub>	I <sub>C</sub> = -100μA, I <sub>E</sub> = 0	-60	-	-	V
Emitter–Base Breakdown Voltage	V <sub>BR(EBO)</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> = 0	-6	-	-	V
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = -40V, I <sub>E</sub> = 0	-	-	-1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> = 0	-	-	-1	μA
Collector Cutoff Current	I <sub>CEO</sub>	V <sub>CE</sub> = -50V, I <sub>B</sub> = 0	-	-	-10	μA
DC Current Gain	h <sub>FE</sub>	I <sub>C</sub> = -100mA, V <sub>CE</sub> = -2V	200	-	400	
		I <sub>C</sub> = -3A, V <sub>CE</sub> = -2V	35	-	-	
Collector–Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -2A, I <sub>B</sub> = -100mA	-	-0.35	-0.7	V
Base–Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -2A, I <sub>B</sub> = -100mA	-	-0.94	-1.2	V
Current-Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -50mA	-	150	-	MHz
Collector Output Capacitance	cob	V <sub>CB</sub> = -10V, f = 1MHz	-	39	-	pF



## ELECTRICAL CHARACTERISTICS CURVES

Fig 1.  $h_{FE}$  vs  $I_C$

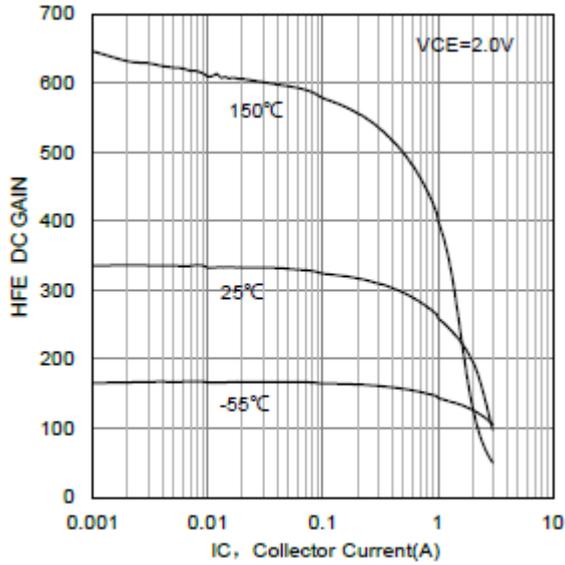


Fig 2.  $I_C$  vs  $V_{CE}$

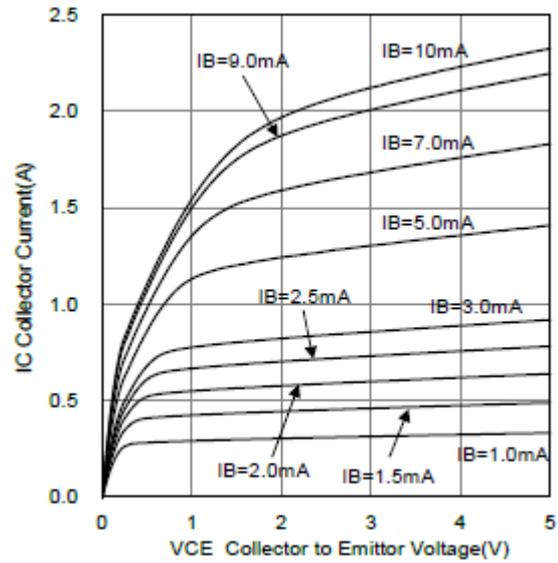


Fig 3.  $V_{CE}$  vs  $I_B$

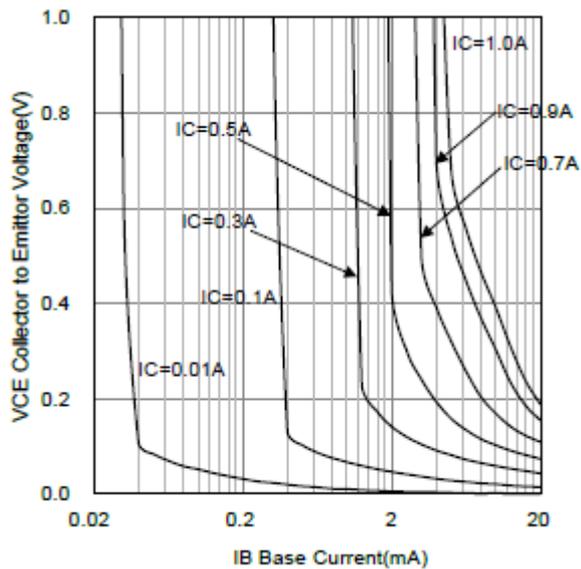


Fig 4.  $V_{BE(on)}$  vs  $I_C$

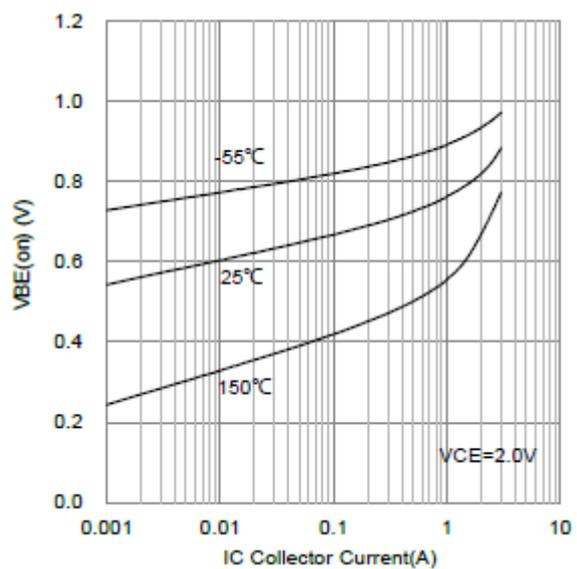




Fig 5.  $V_{BE(sat)}$  VS  $I_C$

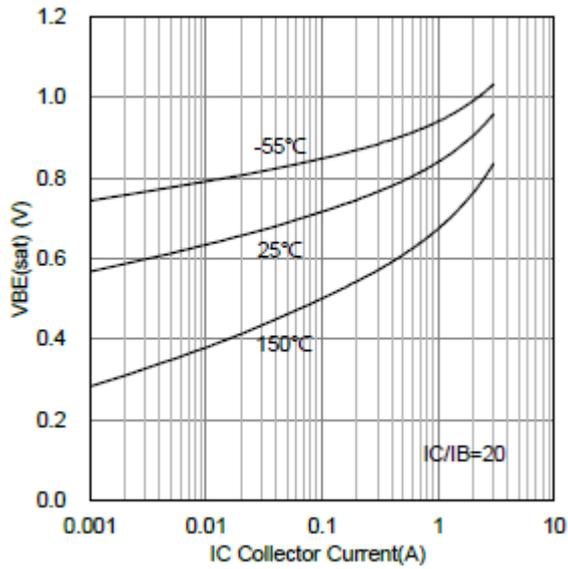


Fig 6.  $V_{CE(sat)}$  VS  $I_C$

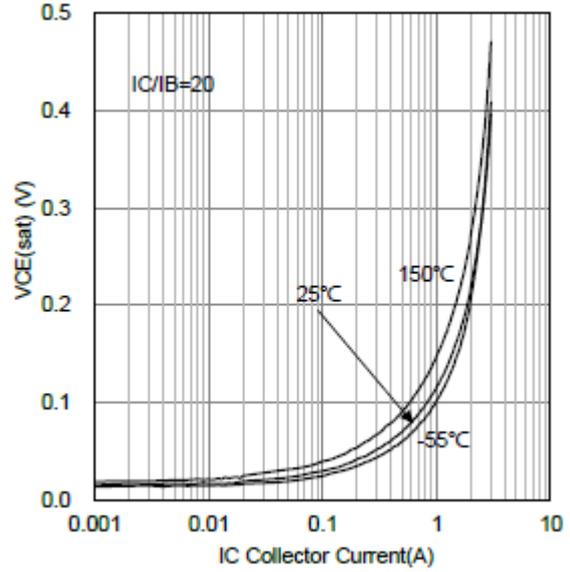
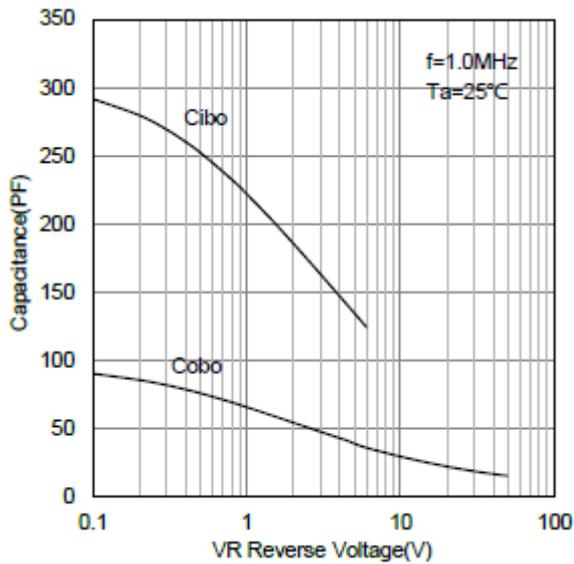


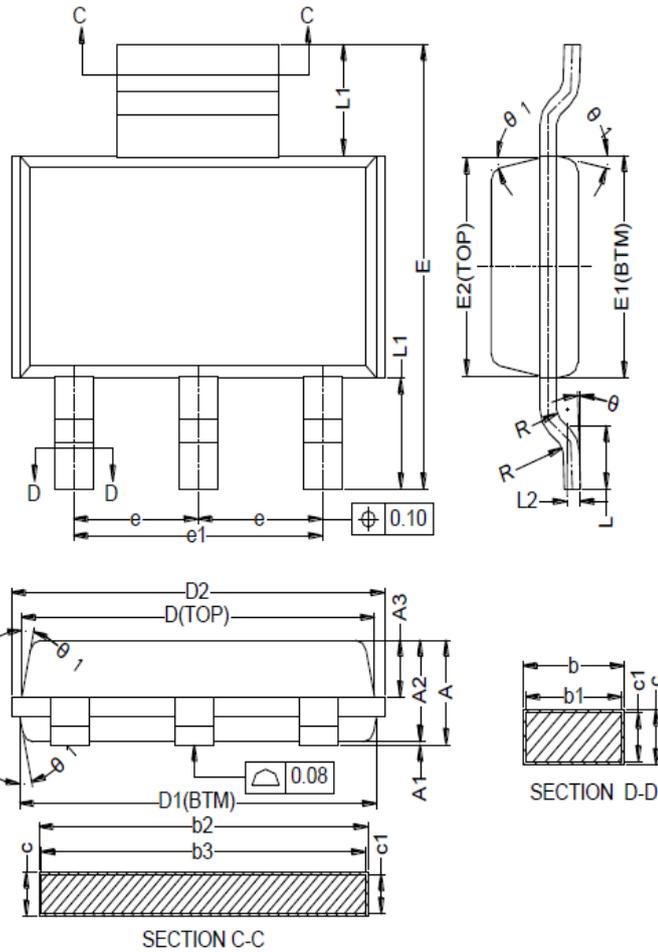
Fig 7. Capacitance





**PACKAGE INFORMATION**

Dimension in SOT-223 Package (Unit: mm)



Symbol	Min	Max	Symbol	Min	Max
A	-	1.80	E	6.80	7.20
A1	0.02	0.10	E1	3.40	3.60
A2	1.50	1.70	E2	3.33	3.53
A3	0.80	1.00	e	2.30BSC	
b	0.67	0.80	e1	4.60BSC	
b1	0.66	0.76	L	0.80	1.20
b2	2.96	3.09	L1	1.75REF	
b3	2.95	3.05	L2	0.25BSC	
c	0.30	0.35	R	0.10	-
c1	0.29	0.31	R1	0.10	-
D	6.48	6.58	$\theta$	0°	8°
D1	6.55	6.65	$\theta_1$	10°	14°
D2	-	7.05			



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