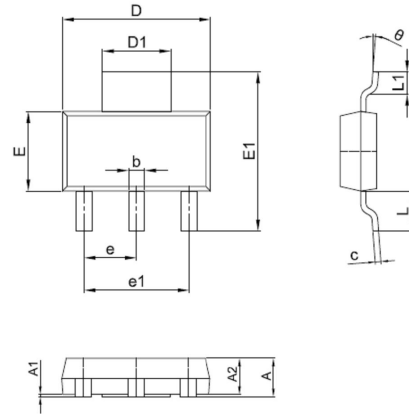
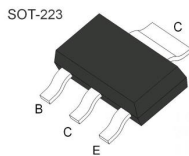


Application

- Power management
 - DC/DC converters
 - Supply line switching
 - Battery charger
 - Linear voltage regulation (LDO).
- Peripheral drivers
 - Driver in low supply voltage applications, e.g. lamps, LEDs
 - Inductive load driver, e.g. relays, buzzers, motors.

Feature

- Low collector-emitter saturation voltage
- High collector current capability: I_C and I_{CM}
- High collector current gain (h_{FE}) at high I_C
- Higher efficiency leading to less heat generation
- Complement to PBSS4350Z



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.80	0.059	0.071
A1	0.00	0.10	0.000	0.004
A2	1.50	1.70	0.059	0.067
b	0.65	0.75	0.026	0.030
c	0.20	0.30	0.008	0.012
D	6.40	6.60	0.252	0.260
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.85	7.15	0.270	0.281
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	1.65	1.85	0.065	0.073
L1	0.90	1.15	0.035	0.045

Absolute Maximum Rating ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	60	V
Collector-Emitter Voltage	BV_{CEO}	50	V
Emitter-Base Voltage	BV_{EBO}	6	V
Collector Current(DC)	I_C	3	A
Peak collector current Current	I_{CM}	5	A
Collector Power Dissipation	P_C	1.35	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55~150	$^{\circ}\text{C}$

PBSS4350Z NPN

Electrical Characteristics (T_C=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV _{CBO}	I _C = 100μA, I _E = 0	60			V
Collector-emitter breakdown voltage	BV _{CEO}	I _C = 1mA, I _B = 0	50			V
Emitter-base breakdown voltage	BV _{EBO}	I _E = 100μA, I _C = 0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 50V, I _B = 0			100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = 5V, I _C = 0			100	nA
DC current gain*	h _{FE}	V _{CE} = 2V, I _C = 500mA	200			
		V _{CE} = 2V, I _C = 1A	200			
		V _{CE} = 2V, I _C = 2A	100			
Collector-emitter saturation voltage*	V _{CE(sat)}	I _C = 500mA, I _B = 50mA			-90	mV
		I _C = 1A, I _B = 50mA			-170	mV
		I _C = 2A, I _B = 200mA			-290	mV
Equivalent on-resistance*	R _{CEsat}	I _C = 2A, I _B = 200mA			145	mΩ
Base-emitter saturation voltage*	V _{BE(sat)}	I _C = -2A, I _B = -200mA			-1.2	V
Base-emitter turn-on voltage	V _{BE(on)}	V _{CE} = 2V, I _C = 1A			-1.1	V
Transition frequency	f _T	V _{CE} = 5V, I _C = 100mA	100			MHz
Collector capacitance	C _C	V _{CB} = 10V, I _E =I _C =0, f=1MHz			30	pF

Note:

* Pulse test: PW≤300μs, duty cycle≤2% Pulse

Thermal Characteristics

Parameter	Symbol	Conditions	Value	Unit
Resistance from junction to ambient in	R _{θJA}	in free air; notes 1	92	°C/W
		in free air; notes 2	62.5	°C/W

Notes

1. Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 1cm²
2. Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 6cm²

RATING AND CHARACTERISTIC CURVES (PBSS4350Z)

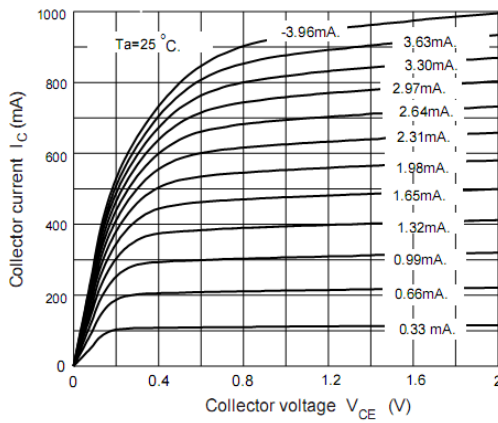


Figure 1. Static Characteristic

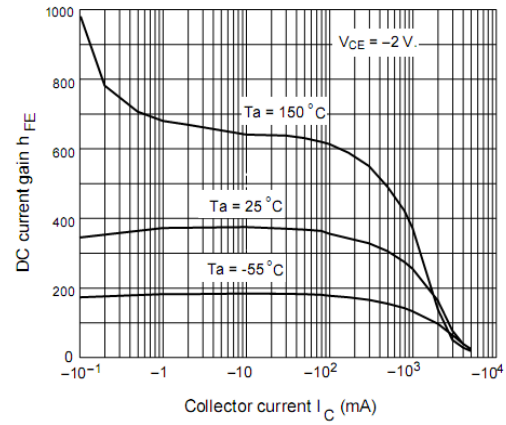


Figure 2. DC current Gain

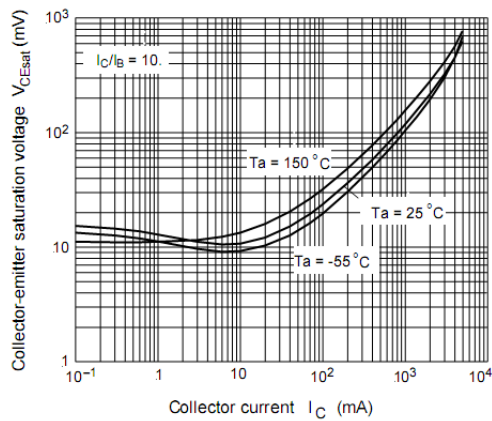


Figure 3. Collector-Emitter Saturation Voltage

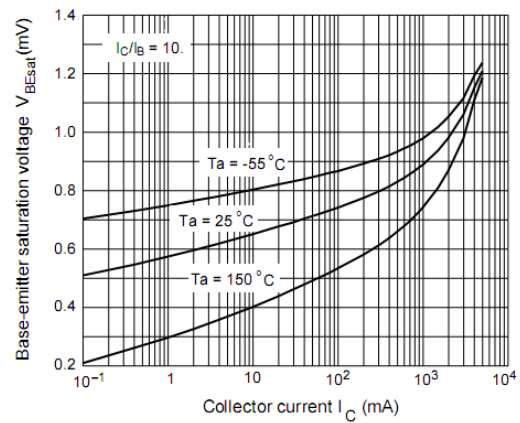


Figure 4. Base-Emitter Saturation Voltage

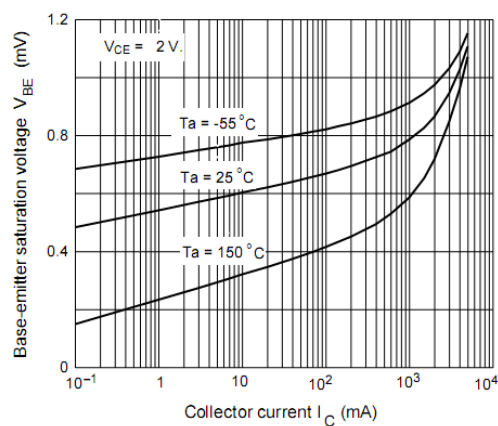


Figure 5. Base-Emitter on Voltage

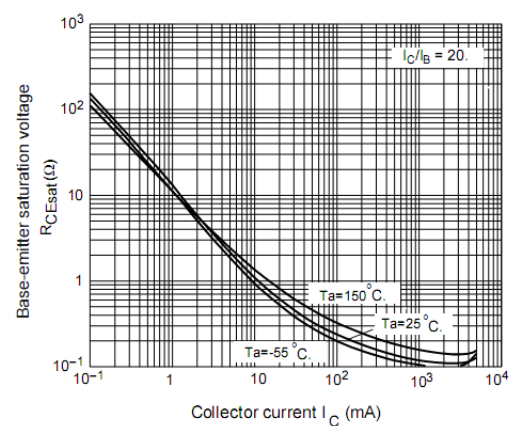


Figure 6. Equivalent on-resistance