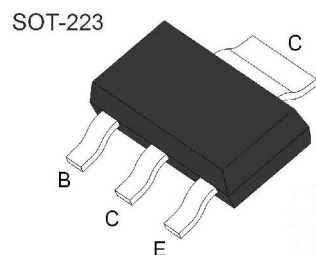


Application

- 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,135-CN

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	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Cnditions	Value	Unit
Resistance from junction to ambientin	$R_{\theta JA}$	in free air; notes 1	92	$^{\circ}\text{C}/\text{W}$
		in free air; notes 2	62.5	$^{\circ}\text{C}/\text{W}$

Notes

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

Electrical Characteristics ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = -100\mu\text{A}$, $I_E = 0$	-60			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1\text{mA}$, $I_B = 0$	-50			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu\text{A}$, $I_C = 0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB} = -50\text{V}$, $I_B = 0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$			-100	nA
* DC current gain	h_{FE}	$V_{CE} = -2\text{V}$, $I_C = -500\text{mA}$	200			
		$V_{CE} = -2\text{V}$, $I_C = -1\text{A}$	200			
		$V_{CE} = -2\text{V}$, $I_C = -2\text{A}$	100			
* Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$			-100	mV
		$I_C = -1\text{A}$, $I_B = -50\text{mA}$			-180	mV
		$I_C = -2\text{A}$, $I_B = -200\text{mA}$			-300	mV
*Equivalent on-resistance	R_{CEsat}	$I_C = -2\text{A}$, $I_B = -200\text{mA}$			150	m Ω
* Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{A}$, $I_B = -200\text{mA}$			-1.3	V
* Base-emitter turn-on voltage	$V_{BE(on)}$	$V_{CE} = -2\text{V}$, $I_C = -1\text{A}$			-1.1	V
Transition frequency	f_T	$V_{CE} = -5\text{V}$, $I_C = -100\text{mA}$	100			MHz
Collector capacitance	C_C	$V_{CB} = -10\text{V}$, $I_E = I_C = 0$, $f = 1\text{MHz}$			40	pF

* Pulse test: $PW \leq 300\mu\text{s}$, duty cycle $\leq 2\%$ Pulse

Typical Characteristics

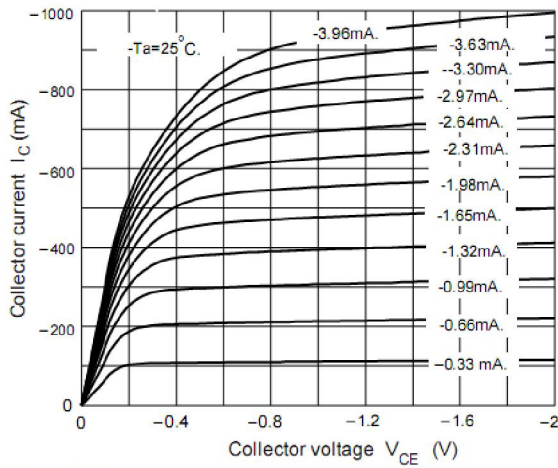


Figure 1. Static Characteristic

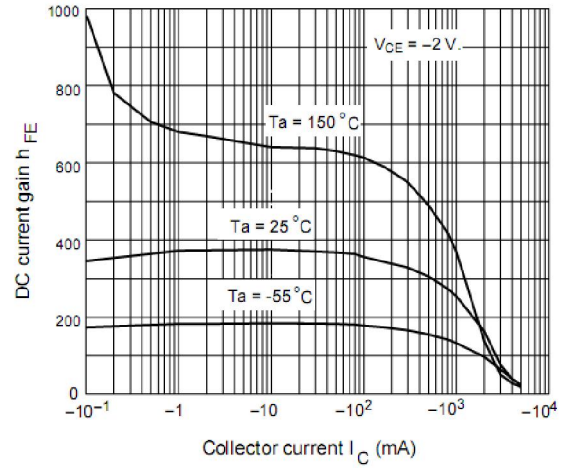


Figure 2. DC current Gain

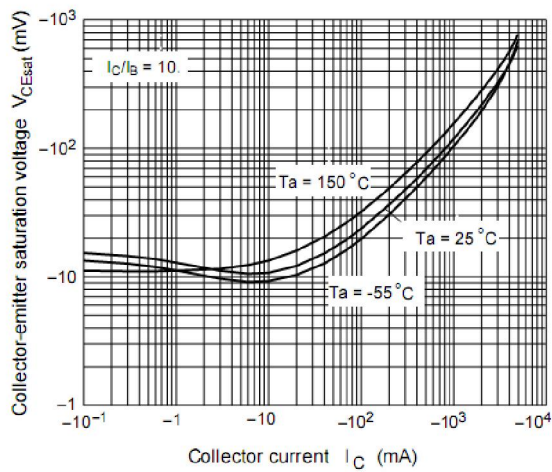


Figure 3. Collector-Emitter Saturation Voltage

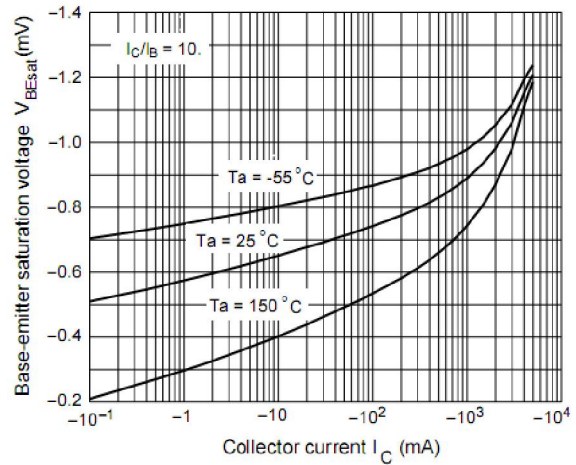


Figure 4. Base-Emitter Saturation Voltage

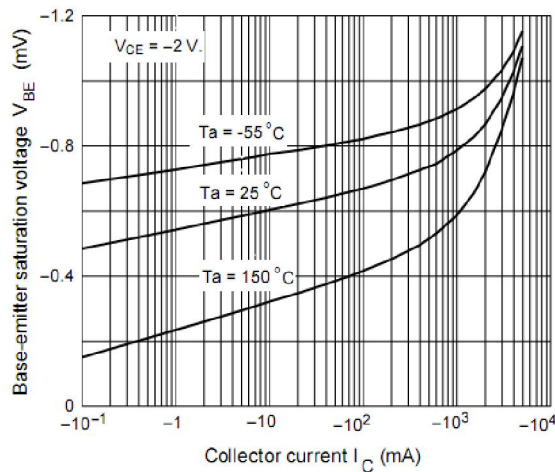


Figure 5. Base-Emitter on Voltage

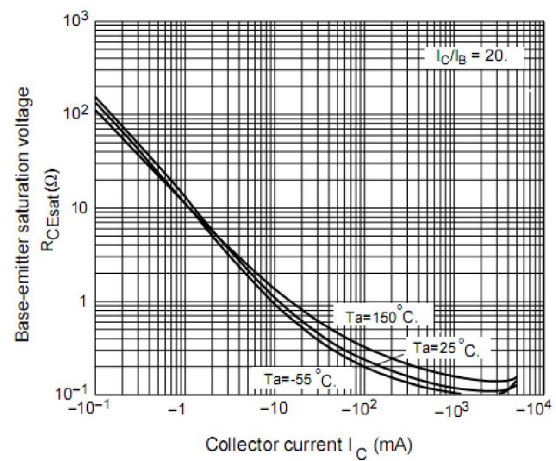
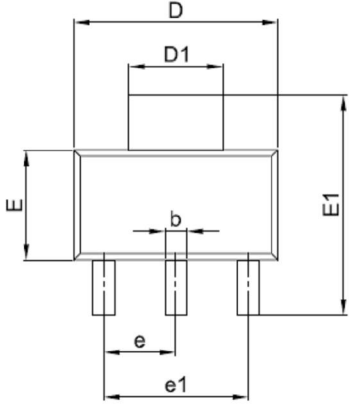
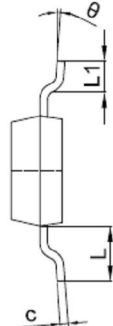


Figure 6. Equivalent on-resistance

Package Dimensions

	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

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