

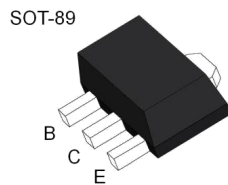
Applications

- Supply line switching
- Battery charger
- DC/DC converter
- LCD backlighting.

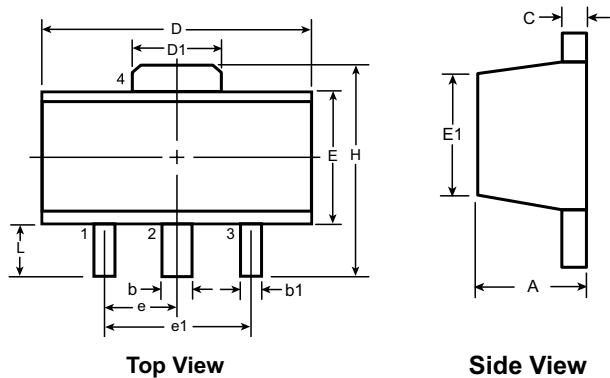
Features

- Low collector-to-emitter saturation voltage.
- High current capability
- Higher efficiency leading to less heat generation
- Reduced printed-circuit board requirements.
- Complement the PBSS4350X

Marking : S46



SOT-89 PACKAGE OUTLINE



Symbol	A	b	b1	C	D	D1	E	E1	e	e1	H	L
MIN	1.40	0.44	0.36	0.3	4.40	1.50	2.29	2.00 [†]	1.50	3.00	3.94	0.89
NOM	-	-	-	-	-	-	-	-	-	-	-	-
MAX	1.60	0.56	0.48	0.5	4.60	1.75	2.60	2.29	1.50	3.00	4.25	1.20

Dimensions in mm

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	-50	V
Collector-emitter voltage	BV_{CEO}	-50	V
Emitter-base voltage	BV_{EBO}	-5	V
Collector current (DC)	I_C	-3	A
Collector current (Pulse)	I_{CP}	-5	A
Base current (DC)	I_B	-0.5	A
Total power dissipation	Note1	0.55	W
	Note2	1	
	Note3	1.4	
	Note4	1.6	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

PBSS5350X PNP

Characteristicslectrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-50			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1mA, I_B = 0$	-50			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-100	nA
DC current gain	h_{FE}	$V_{CE} = -2V, I_B = -0.1A$	200			
		$V_{CE} = -2V, I_B = -0.5A$	200			
		$V_{CE} = -2V, I_B = -1A$	200		450	
		$V_{CE} = -2V, I_B = -2A$	130			
		$V_{CE} = -2V, I_B = -3A$	80			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$			-90	mV
		$I_C = -1A, I_B = -50mA$			-180	
		$I_C = -2A, I_B = -100mA$			-320	
		$I_C = -2A, I_B = -200mA$			-270	
		$I_C = -3A, I_B = -300mA$			-390	
Equivalent on-resistance	$R_{CE(sat)}$	$I_C = -2A, I_B = -200mA$			135	mΩ
Base -emitter saturation voltage*	$V_{BE(sat)}$	$I_C = -2A, I_B = -100mA$			-1.1	V
		$I_C = -3A, I_B = -300mA$			-1.2	
Base-emitter turn on voltage	$V_{BE(on)}$	$V_{CE} = -2V, I_B = -1A$			-1.1	V
Transition frequency	f_T	$V_{CE} = -10V, I_E = -100mA$ $f=100MHz$	100			MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f=1MHz$			35	pF

* Pulse Test: PW=300μs, duty Cycle=2% Pulsed

Thermal Characteristics

Parameter	Symbol	Conditions	Value	Unit
Thermal resistance from junction to ambient	$R_{th(j-a)}$	in free air; Note1	225	°C / W
		Note2	125	
		Note3	90	
		Note4	80	
Thermal resistance from junction to soldering point	$R_{th(j-s)}$		16	°C / W

Notes

1. Device mounted on a printed-circuit board, single sided copper, tinplated and standard footprint.
2. Device mounted on a printed-circuit board, single sided copper, tinplated and mounting pad for collector 1 cm²
3. Device mounted on a printed-circuit board, single sided copper, tinplated and mounting pad for collector 6 cm²
4. Device mounted on a ceramic printed-circuit board 7cm², single-sided copper, tinplated.

RATING AND CHARACTERISTIC CURVES (PBSS5350X)

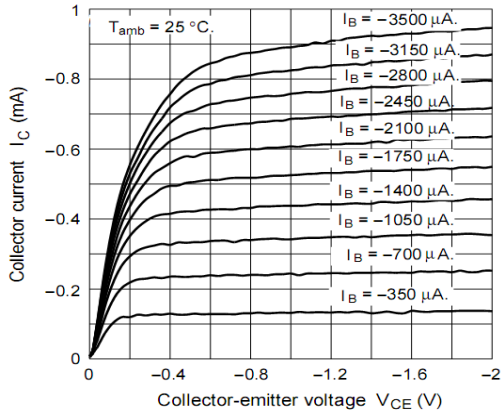


Figure 1. Static Characteristic

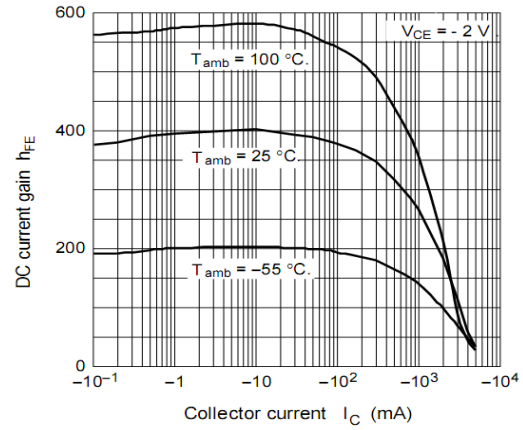


Figure 2. DC current Gain

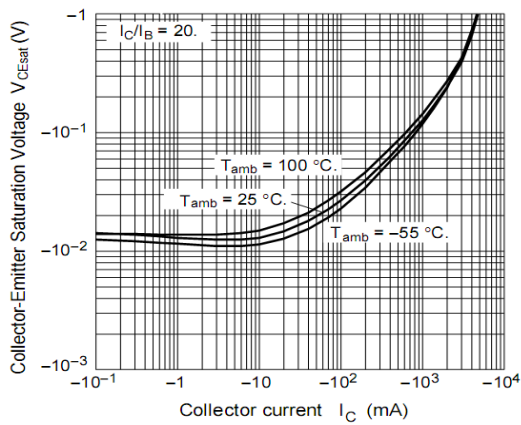


Figure 3. Collector-Emitter Saturation Voltage

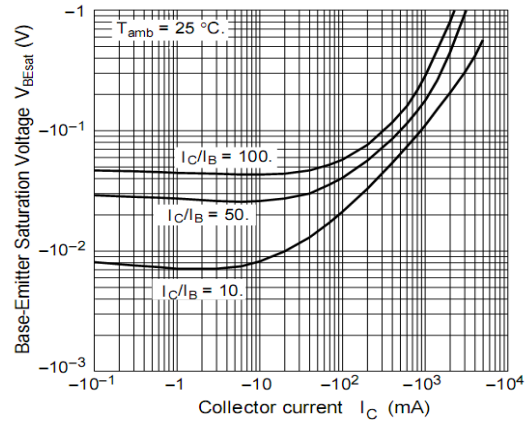


Figure 4. Base-Emitter Saturation Voltage

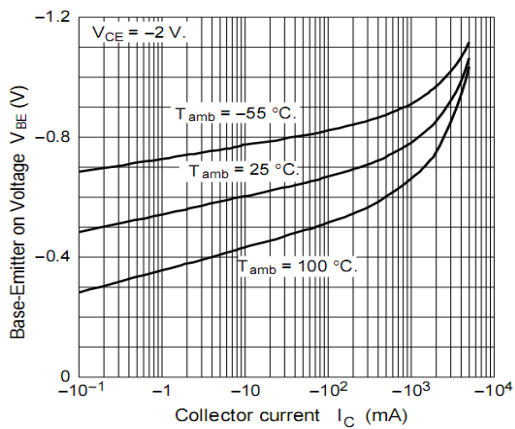


Figure 5. Base-Emitter on Voltage

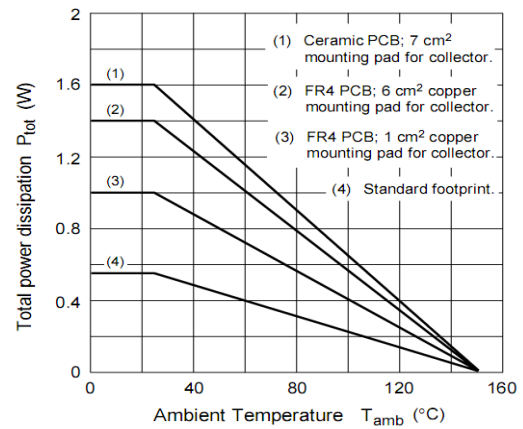


Figure 6. Power derating curves.