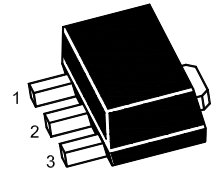


2SB9435U

PNP Silicon Epitaxial Power Transistor



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

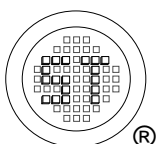
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	45	V
Collector Emitter Voltage	$-V_{CEO}$	30	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	3	A
Peak Collector Current	$-I_{CM}$	5	A
Base Current	$-I_B$	1	A
Total Power Dissipation at $T_a = 25^\circ\text{C}$	P_{tot}	0.72 ¹⁾	W
Total Power Dissipation at $T_c = 25^\circ\text{C}$	P_{tot}	3	W
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Mounted on 0.012" sq. (7.6 sq. mm) Collector pad on FR-4 bd material.

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 1\text{ V}, -I_C = 0.8\text{ A}$ at $-V_{CE} = 1\text{ V}, -I_C = 1.2\text{ A}$ at $-V_{CE} = 1\text{ V}, -I_C = 3\text{ A}$	h_{FE} h_{FE} h_{FE}	125 110 90	- - -	- - -	- - -
Collector Emitter Cutoff Current at $-V_{CE} = 25\text{ V}$	$-I_{CEO}$	-	-	20	μA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	-	10	μA
Collector Emitter Sustaining Voltage at $-I_C = 10\text{ mA}$	$-V_{(SUS)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 50\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 0.8\text{ A}, -I_B = 20\text{ mA}$ at $-I_C = 1.2\text{ A}, -I_B = 20\text{ mA}$ at $-I_C = 3\text{ A}, -I_B = 300\text{ mA}$	$-V_{CE(sat)}$	- - -	- - -	0.21 0.275 0.55	V
Base Emitter Saturation Voltage at $-I_C = 3\text{ A}, -I_B = 300\text{ mA}$	$-V_{BE(sat)}$	-	-	1.25	V
Base Emitter on Voltage at $-V_{CE} = 4\text{ V}, -I_C = 1.2\text{ A}$	$-V_{BE(on)}$	-	-	1.1	V
Current Gain Bandwidth Product at $-V_{CE} = 10\text{ V}, -I_C = 500\text{ mA}, f = 1\text{ MHz}$	f_T	-	110	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	C_{ob}	-	-	150	pF



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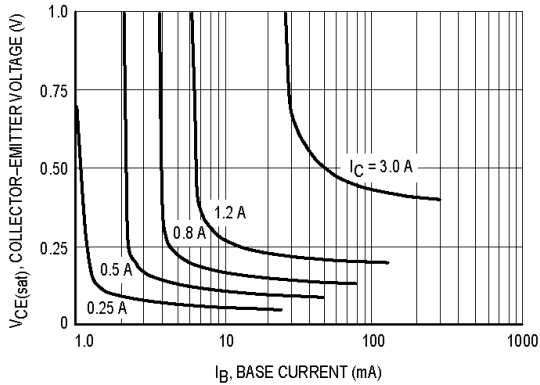


Figure 1. Collector Saturation Region

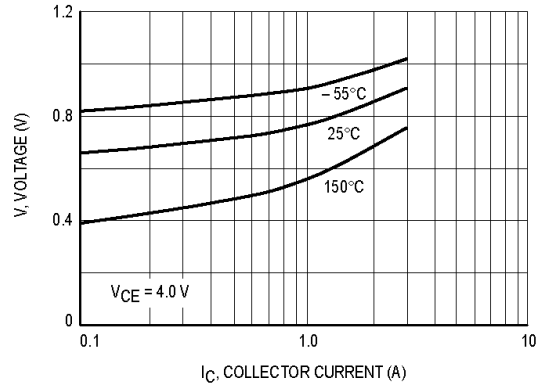


Figure 2. $V_{BE(on)}$ Voltage

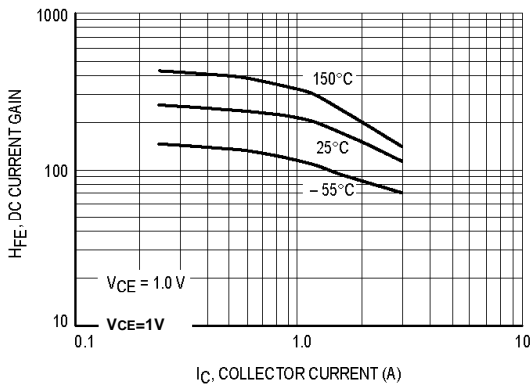


Figure 3. DC Current Gain

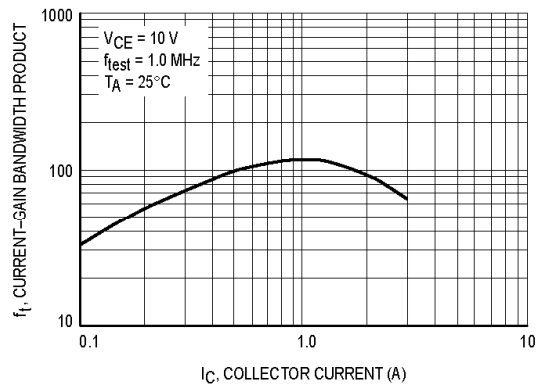


Figure 4. Current-Gain Bandwidth Product

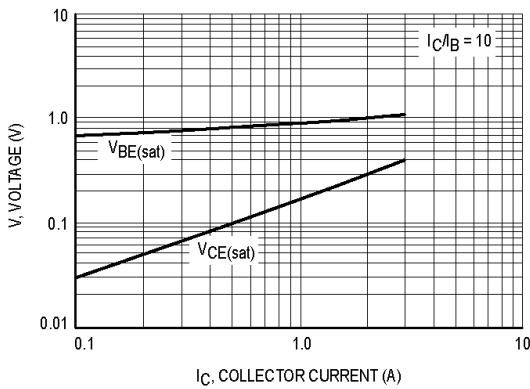


Figure 5. "On" Voltages

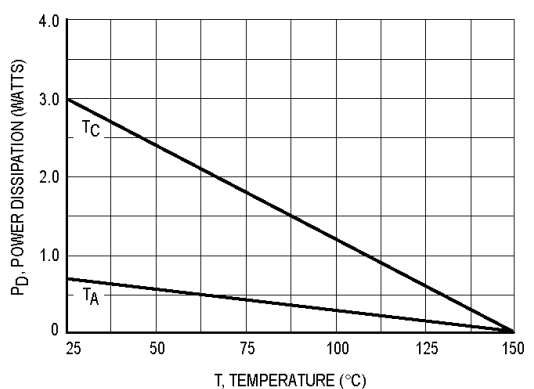
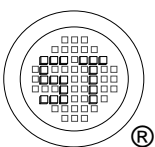
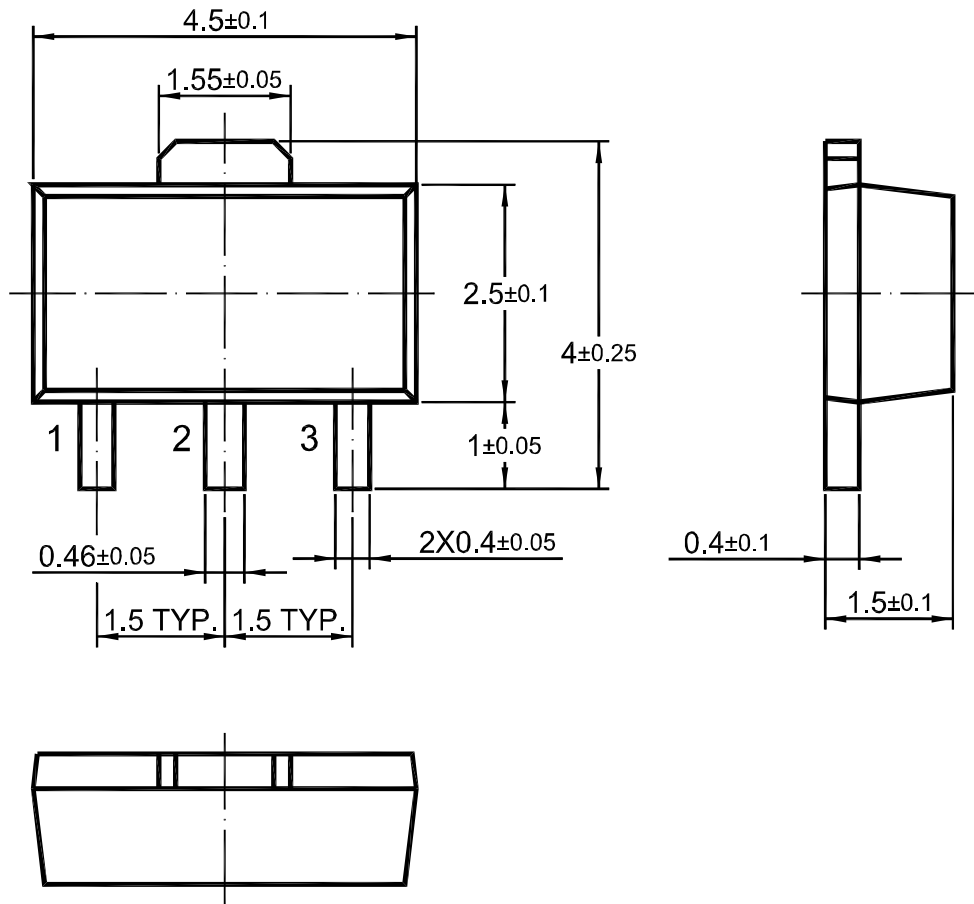


Figure 6. Power Derating

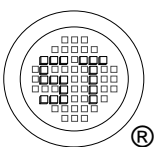


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SOT-89 PACKAGE OUTLINE



Dimensions in mm



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ISO/TS 16949:2008
Certificate No. 16073300



ISO 14001:2004
Certificate No. 7116



ISO 9001:2008
Certificate No. 50719410



BS-OHSAS 18001:2007
Certificate No. 7116



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Certificate No. PRC-SP84-148-1

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