

BV45

NPN Silicon Epitaxial Planar Transistor

High voltage fast switching power transistor



1. Emitter 2. Collector 3. Base

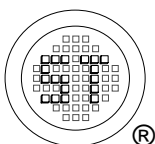
TO-92 Plastic Package
Weight approx. 0.19g

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	700	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	I_C	0.75	A
Collector Peak Current (tp < 5 ms)	I_{CM}	1.5	A
Base Current	I_B	0.4	A
Base Peak Current	I_{BM}	0.75	A
Total Dissipation	P_{tot}	0.95	W
Operating Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 0.2\text{ A}$ at $V_{CE} = 5\text{ V}$, $I_C = 0.4\text{ A}$	h_{FE}	10	30	-
	h_{FE}	5	20	-
Collector Cutoff Current at $V_{CB} = 700\text{ V}$	I_{CBO}	-	250	μA
Emitter Cutoff Current at $V_{EB} = 9\text{ V}$	I_{EBO}	-	1	mA
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	400	-	V
Collector Emitter Saturation Voltage at $I_C = 0.2\text{ A}$, $I_B = 40\text{ mA}$ at $I_C = 0.3\text{ A}$, $I_B = 75\text{ mA}$ at $I_C = 0.4\text{ A}$, $I_B = 135\text{ mA}$	V_{CEsat}	-	0.5	V
		-	1	
		-	1.5	
Base Emitter Saturation Voltage at $I_C = 0.2\text{ A}$, $I_B = 40\text{ mA}$ at $I_C = 0.3\text{ A}$, $I_B = 75\text{ mA}$	V_{BEsat}	-	1	V
		-	1.2	



SEMTECH ELECTRONICS LTD.

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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 71116



ISO 9001:2000
Certificate No. 050098

Dated : 16/09/2006

Figure 1: Safe Operating Area

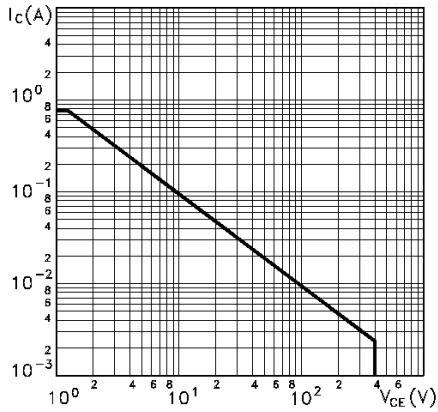


Figure 2: Derating Curve

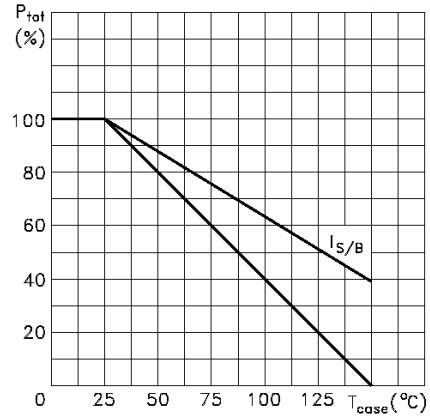


Figure 3: Collector Emitter Saturation Voltage

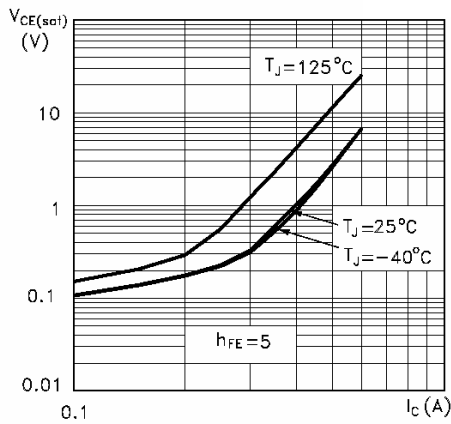


Figure 4: Base Emitter Saturation Voltage

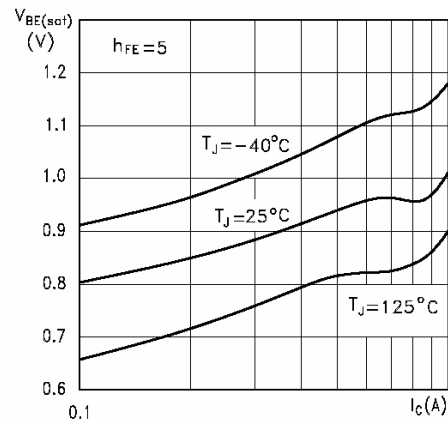


Figure 5: DC Current Gain

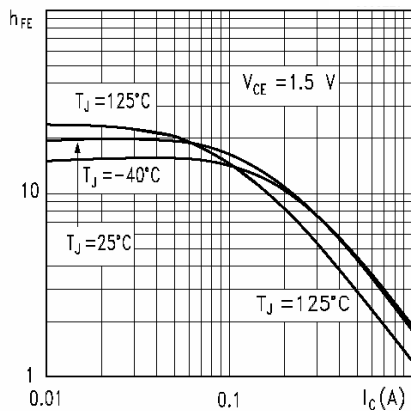
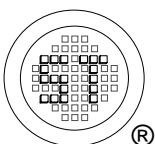
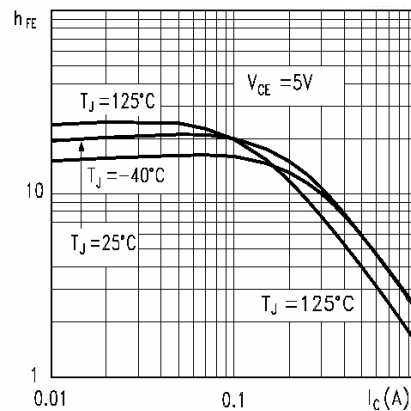


Figure 6: DC Current Gain



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