

BV45

NPN Silicon Epitaxial Planar Transistor

High voltage fast switching power transistor



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

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 ($t_p < 5\text{ ms}$)	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} h_{FE}	10 5	30 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 1 1.5	V
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 1.2	V

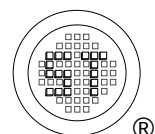


Figure 1: Safe Operating Area

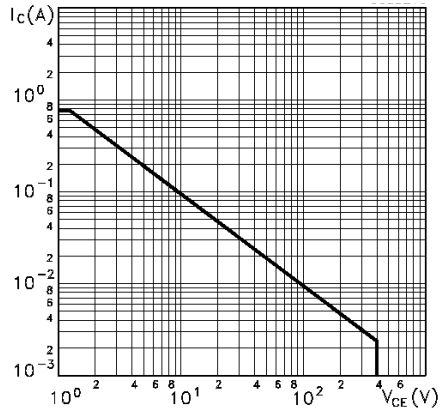


Figure 2: Derating Curve

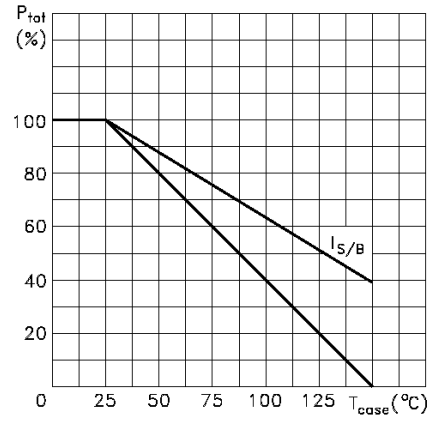


Figure 3: Collector Emitter Saturation Voltage

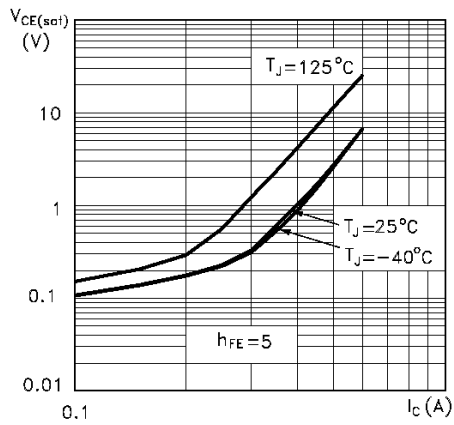


Figure 4: Base Emitter Saturation Voltage

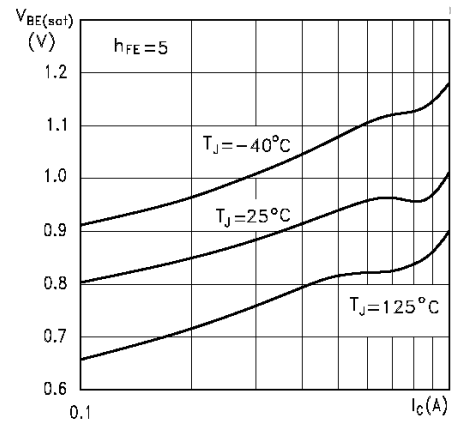


Figure 5: DC Current Gain

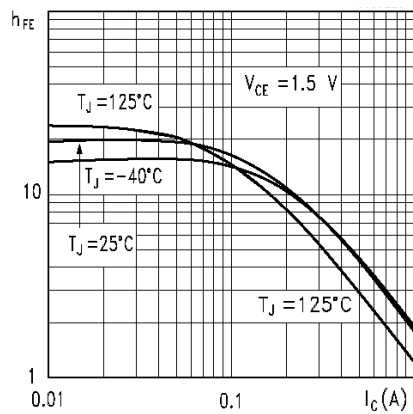


Figure 6: DC Current Gain

