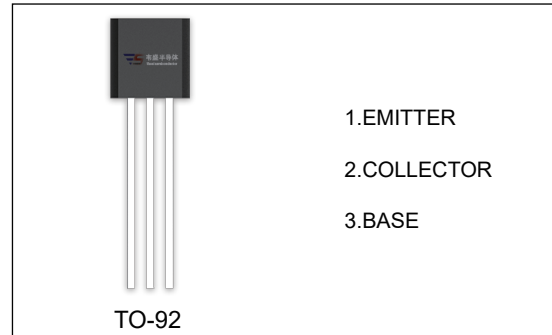


## 3DD13003B TRANSISTOR( NPN )

### FEATURES

- \* power switching applications



### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
3DD13003B	TO-92	Bulk	1000pcs/Bag
3DD13003B-TA	TO-92	Tape	2000pcs/Box

### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	700	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	9	V
I <sub>C</sub>	Collector Current -Continuous	1.5	A
P <sub>C</sub>	Collector Power Dissipation	0.9	W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55 ~150	°C

$T_a=25\text{ }^{\circ}\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	700			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	9			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=700\text{V}, I_E=0$			100	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=400\text{V}, I_B=0$			50	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=7\text{V}, I_C=0$			10	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=10\text{V}, I_C=0.4\text{A}$	20		40	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=1.5\text{A}, I_B=0.5\text{A}$			3	V
	$V_{CE(sat)2}$	$I_C=0.5\text{A}, I_B=0.1\text{A}$			0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=0.5\text{A}, I_B=0.1\text{A}$			1	V
Transition Frequency	$f_T$	$V_{CE}=10\text{V}, I_C=100\text{mA}, f=1\text{MHz}$	4			MHz
Fall time	$t_f$	$I_C=1\text{A}$			0.7	$\mu\text{s}$
Storage time	$t_s$	$I_{B1}=-I_{B2}=0.2\text{A}$			4	$\mu\text{s}$

#### CLASSIFICATION OF $h_{FE}$

Rank				
Range	20-25	25-30	30-35	35-40

**Static Characteristic**
