

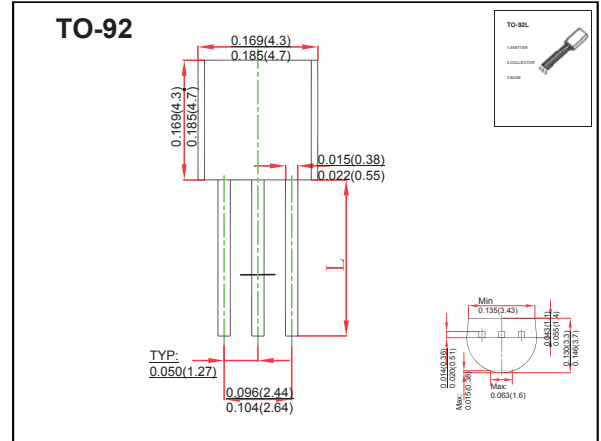
TO-92 Plastic-Encapsulate Transistors

FEATURES

- power switching applications
- TRANSISTOR(NPN)

MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current -Continuous	1.5	A
P_C	Collector Power Dissipation	0.9	W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 ~ 150	°C

ORDERING INFORMATION

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

Electrical Specification($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions			
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	μA
Collector cut-off current	I_{CEO}	$V_{CE}=400\text{V}, I_B=0$		50	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$		10	μA
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	μs
Storage time	t_s	$I_{B1}=-I_{B2}=0.2\text{A}$		4	μs

CLASSIFICATION OF h_{FE}

Rank				
		1		
Range	20-25	25-30	30-35	35-40

KARKING: 13003B

RATINGS AND CHARACTERISTIC CURVES

Static Characteristic

