

## TO-92 Plastic-Encapsulate Transistors

### A44 TRANSISTOR (NPN)

#### FEATURES

- High Breakdown Voltage

#### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

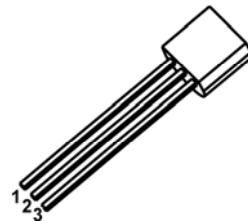
Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	400	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	0.2	A
$I_{CM}$	Collector Current -Pulsed	0.3	A
$P_C$	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	$^\circ\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^\circ\text{C}$

#### TO - 92

1.EMITTER

2.BASE

3.COLLECTOR



#### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=400\text{V}, I_E=0$			0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=400\text{V}, I_B=0$			5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	80		300	
	$h_{FE(2)}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	70			
	$h_{FE(3)}$	$V_{CE}=10\text{V}, I_C=100\text{mA}$	40			
	$h_{FE(4)}$	$V_{CE}=10\text{V}, I_C=50\text{mA}$	80			
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.2	V
	$V_{CE(sat)(2)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.75	V
Transition frequency	$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=30\text{MHz}$	50			MHz

#### CLASSIFICATION OF $h_{FE(1)}$

RANK	A	B1	B2	C
RANGE	80-100	100-150	150-200	200-300

