

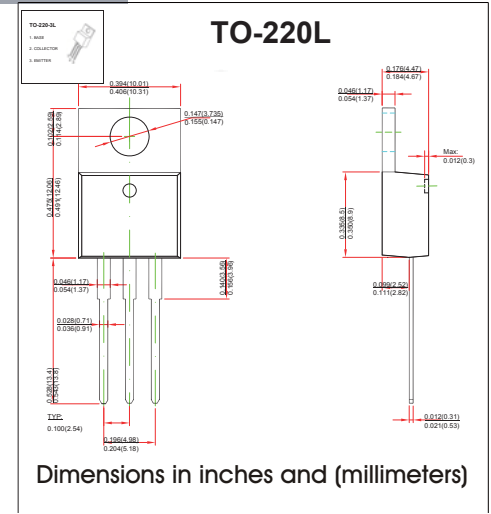
## TO-220L Plastic-Encapsulate Transistors

### FEATURES

- Power switching applications
- TRANSISTOR (NPN)

### MECHANICAL DATA

- Case style: TO-220L molded plastic
- Mounting position: any



### MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	700	V
$V_{CE0}$	Collector-Emitter Voltage	400	V
$V_{EB0}$	Emitter-Base Voltage	9	V
$I_C$	Collector Current -Continuous	8	A
$P_C$	Collector Power Dissipation	2	W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55~150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	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	$I_{CEO}$	$V_{CE}=400\text{V}, I_B=0$			100	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=9\text{V}, I_C=0$			100	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=2\text{A}$	10		40	
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=8\text{A}$	5			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=2\text{A}, I_B=0.4\text{A}$			1	V
	$V_{CE(sat)2}$	$I_C=5\text{A}, I_B=1\text{A}$			2	V
	$V_{CE(sat)3}$	$I_C=8\text{A}, I_B=2\text{A}$			3	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=2\text{A}, I_B=0.4\text{A}$			1.2	V
	$V_{BE(sat)2}$	$I_C=5\text{A}, I_B=1\text{A}$			1.6	V
Storage time	$t_s$	$I_C=500\text{mA}$ (UI9600)	3		6	$\mu\text{s}$
Fall time	$t_f$	$I_C=500\text{mA}$ (UI9600)			0.5	$\mu\text{s}$
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1\text{MHz}$	4			MHz

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

Range	10-15	15-20	20-25	25-30	30-35	35-40
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#### CLASSIFICATION OF $t_s$

Rank	A	B	C
Range	3-4 ( $\mu\text{s}$ )	4-5 ( $\mu\text{s}$ )	5-6 ( $\mu\text{s}$ )



# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

