

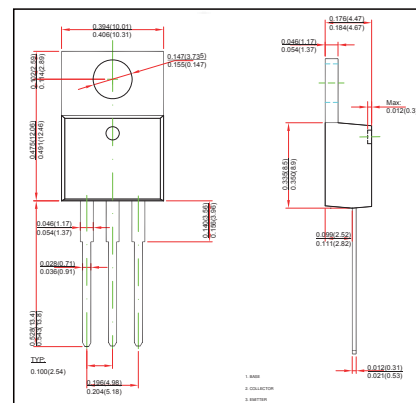
TO-220 Plastic-Encapsulate Transistors

FEATURES

- Power switching applications
- Good high temperature
- Low saturation voltage
- High speed switching
- TRANSISTOR(NPN)

MECHANICAL DATA

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



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	420	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current -Continuous	I_C	4	A
Collector Power Dissipation	P_C	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	°C/ W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-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	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	420			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}	$V_{CE}=400\text{V}, I_B=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0\text{A}$			100	μA
DC current gain	$h_{FE}(1)$	$V_{CE}=5\text{V}, I_C=1\text{A}$	10		40	
	$h_{FE}(2)$	$V_{CE}=5\text{V}, I_C=200\text{mA}$	10		60	
	$h_{FE}(3)$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	5			
	$h_{FE}(4)$	$V_{CE}=5\text{V}, I_C=4\text{A}$	8		40	
Collector-emitter saturation voltage	$V_{CE(sat)}(1)$	$I_C=1\text{A}, I_B=0.2\text{A}$			0.3	V
	$V_{CE(sat)}(2)$	$I_C=2\text{A}, I_B=0.4\text{A}$	0.15 0.25		0.28 0.35	V
	$V_{CE(sat)}(3)$	$I_C=4\text{A}, I_B=1\text{A}$			0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2\text{A}, I_B=0.5\text{A}$			1.6	V
Diode forward voltage	V_{FEC}	$I_C=2\text{A}$			2	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1\text{MHz}$	5			MHz
Rise time	t_r	$I_C=250\text{mA}$			0.5	μs
Storage time	t_s	$I_C=250\text{mA}$	2.0		4.0	
Fall time	t_f	$I_C=250\text{mA}$			0.5	

RATINGS AND CHARACTERISTIC CURVES

Static Characteristic
