

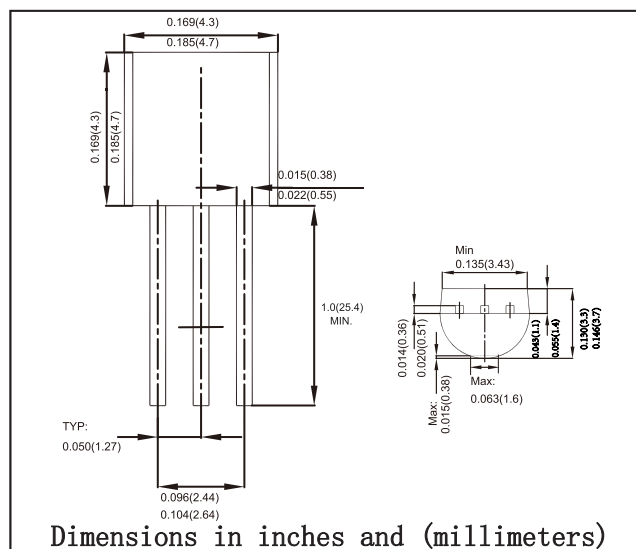
TO-92 Plastic-Encapsulate Transistors

FEATURES

- High Breakdown Voltage
- 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	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.3	A
P	Collector Power Dissipation	625	mW
θ_{JA}	Thermal Resistance from Junction to Ambient	200	°C /W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55~+150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_E = 0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 0.1\text{mA}, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 400\text{V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$	40			
	$h_{FE(2)}$	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	50		200	
	$h_{FE(3)}$	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	45			
	$h_{FE(4)}$	$V_{CE} = 10\text{V}, I_C = 100\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C = 1\text{mA}, I_B = 0.1\text{mA}$			0.4	V
	$V_{CE(sat)(2)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$			0.5	
	$V_{CE(sat)(3)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			0.75	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$			0.75	V
Collector output capacitance	C_{ob}	$V_{CB} = 20\text{V}, I_E = 0, f = 1\text{MHz}$			7	pF
Emitter input capacitance	C_{ib}	$V_{EB} = 0.5\text{V}, I_C = 0, f = 1\text{MHz}$			130	pF

*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycles $\leq 2.0\%$.

RATINGS AND CHARACTERISTIC CURVES

Fig. 1 - Static Characteristics

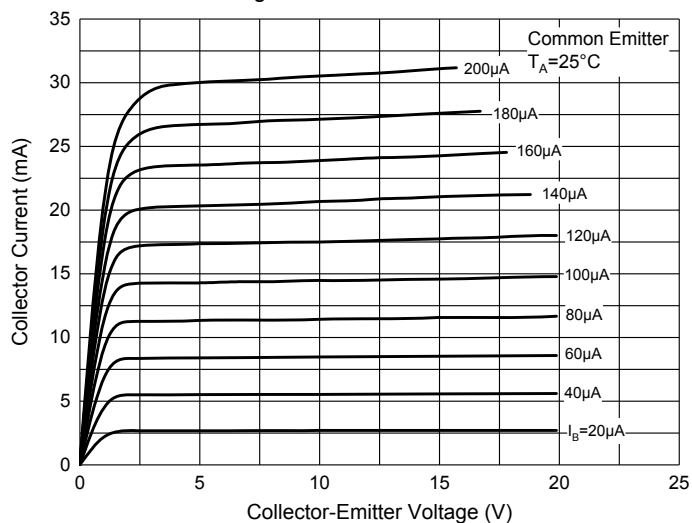


Fig. 2 - DC Current Gain Characteristics

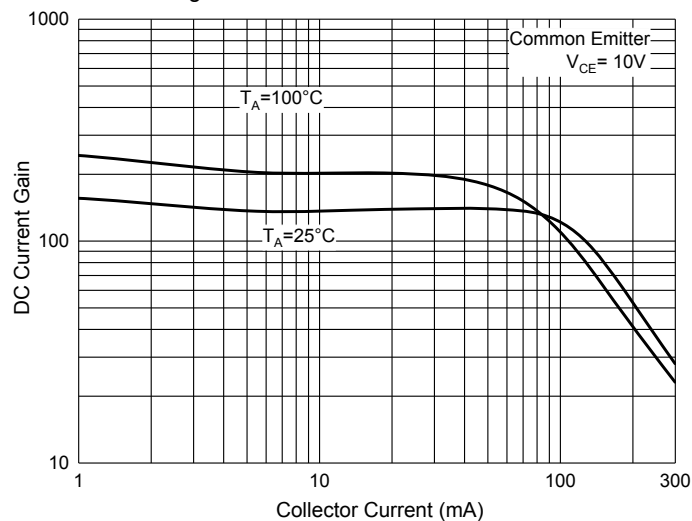


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

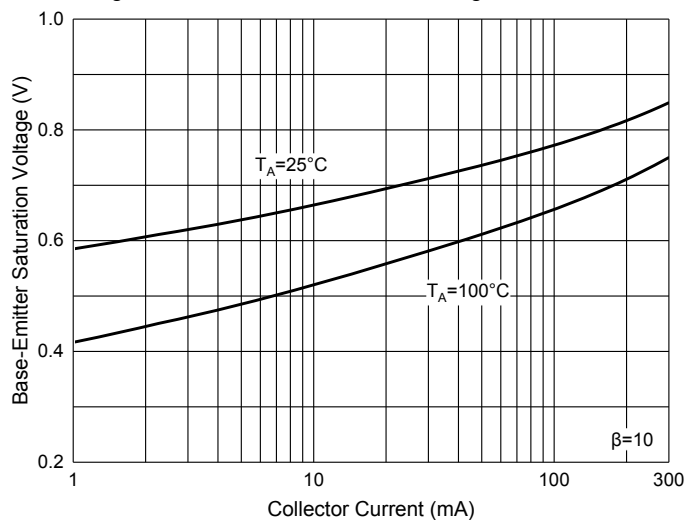


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

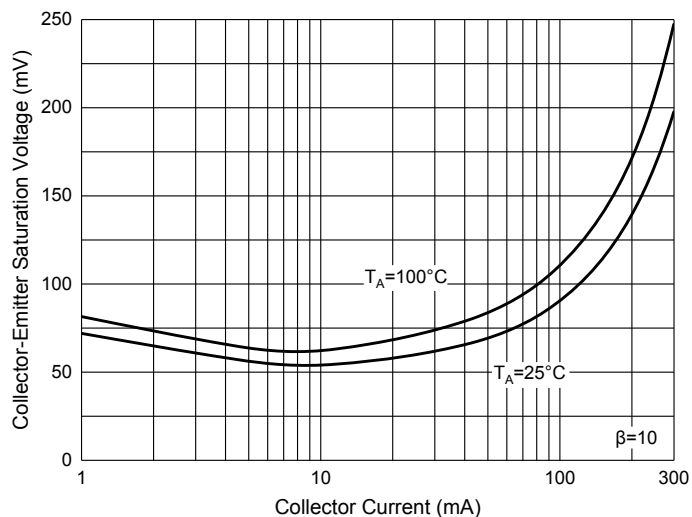


Fig. 5 - Base-Emitter Voltage Characteristics

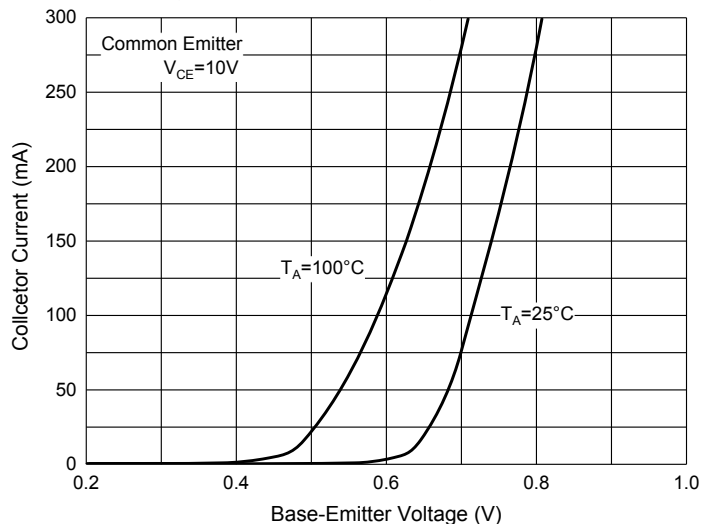


Fig. 6 - Collector Power Derating Curve

