

TO-92 Plastic-Encapsulate Transistors

FEATURES

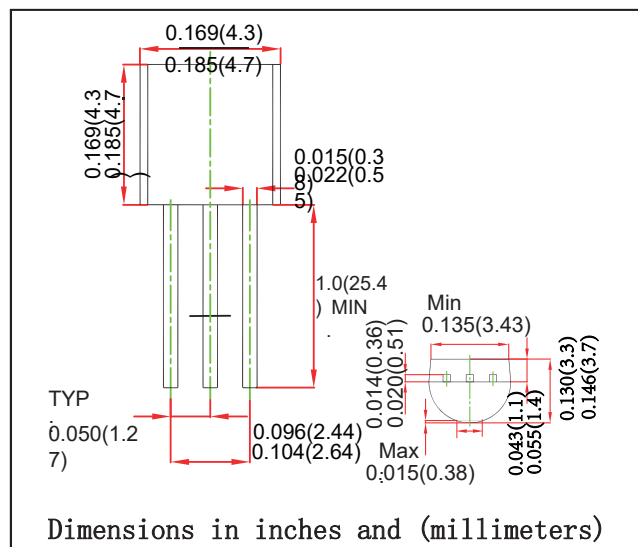
- Switching and amplification in high voltage
- Low current and High voltage
- Transistors NPN

MECHANICAL DATA

- Case style: TO-92 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}	120	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	1	A
Collector Power Dissipation	P_C	750	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	166	°C /W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ +150	°C

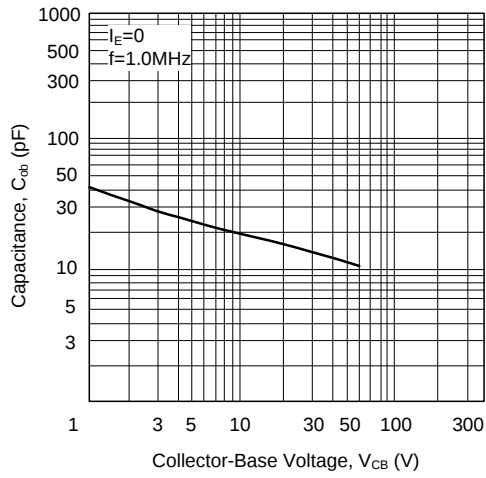
ELECTRICAL CHARACTERISTICS $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.01\text{mA}, I_E=0$	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=2\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.01\text{mA}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=2\text{V}, I_C=100\text{mA}$	135		600	
	$h_{FE(2)}^*$	$V_{CE}=2\text{V}, I_C=1\text{A}$	81			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=1\text{A}, I_B=50\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=1\text{A}, I_B=50\text{mA}$			1.2	V
Base-emitter voltage	V_{BE}^*	$V_{CE}=2\text{V}, I_C=50\text{mA}$	0.6		0.7	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			19	pF
Transition frequency	f_T	$V_{CE}=2\text{V}, I_C=100\text{mA}$	100			MHz

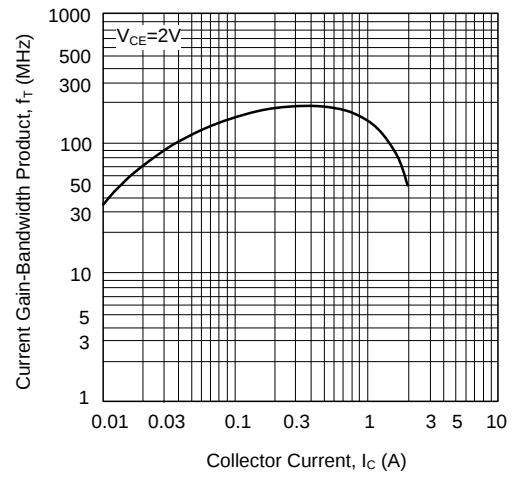
*Pulse test: pulse width $\leq 350\mu\text{s}$, duty cycles $\leq 2.0\%$.

RATINGS AND CHARACTERISTIC CURVES

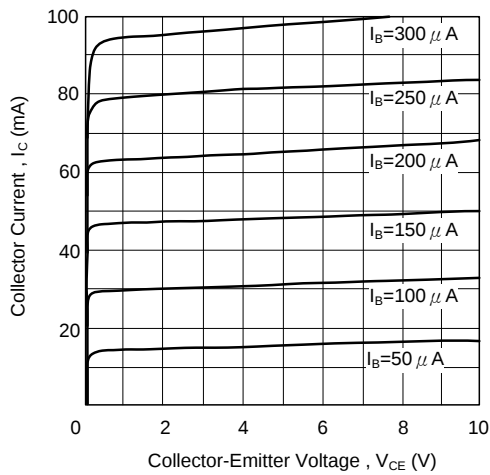
Collector Output Capacitance



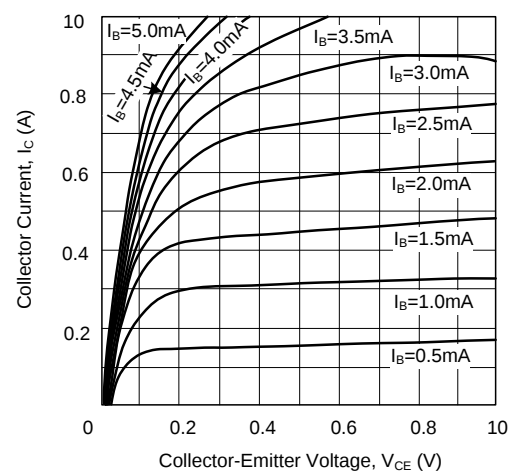
Current Gain-Bandwidth Product



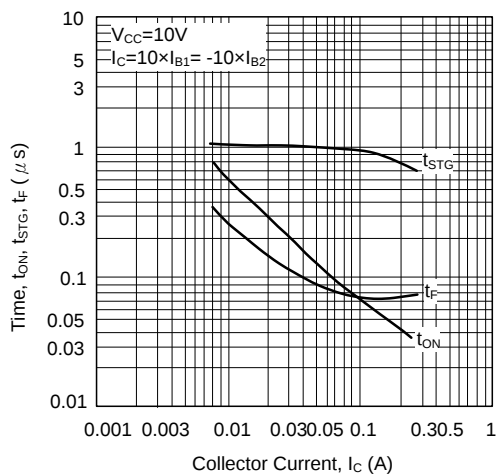
Static Characteristic



Static Characteristic



Switching Time



RATINGS AND CHARACTERISTIC CURVES

