

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

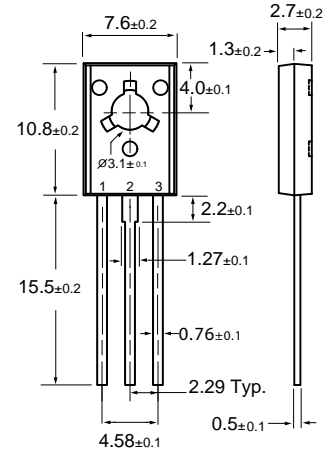
TO-18

Features

- * Low speed switching

MAXIMUM RATINGS* $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current –Continuous	-3	A
P_C	Collector Dissipation	1.25	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



1: Emitter
2: Collector
3: Base

Dimensions in Millimeters

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CB0}$	$I_C=-100\ \mu\text{A}$, $I_E=0$	-40			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C=-10\ \text{mA}$, $I_B=0$	-30			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=-100\ \mu\text{A}$, $I_C=0$	-6			V
Collector cut-off current	I_{CB0}	$V_{CB}=-40\ \text{V}$, $I_E=0$			-1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-30\ \text{V}$, $I_B=0$			-10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\ \text{V}$, $I_C=0$			-1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\ \text{V}$, $I_C=-1\ \text{A}$	60		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-2\ \text{A}$, $I_B=-0.2\ \text{A}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-2\ \text{A}$, $I_B=-0.2\ \text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE}=-5\ \text{V}$, $I_C=-0.1\ \text{A}$ $f = 10\ \text{MHz}$		80		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

Typical Characteristics

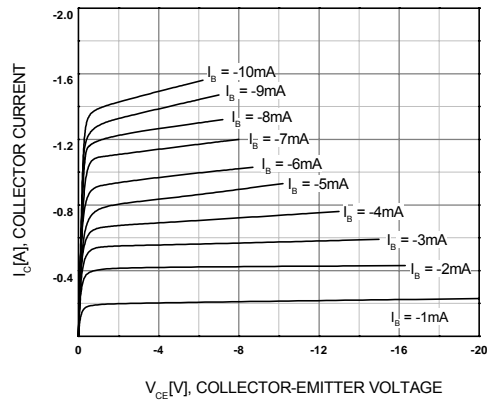


Figure 1. Static Characteristic

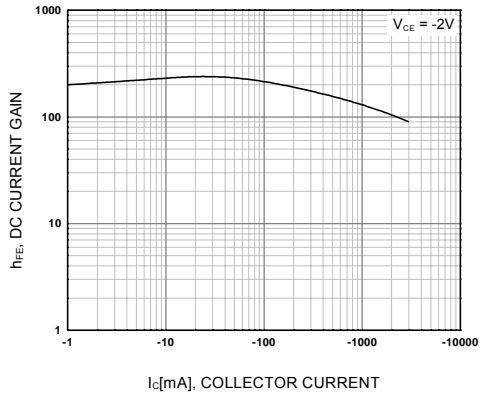
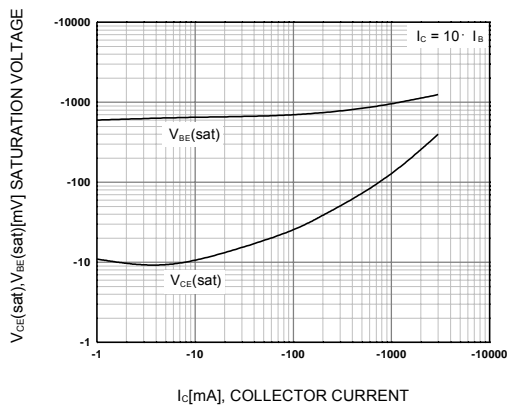


Figure 2. DC current Gain



**Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**

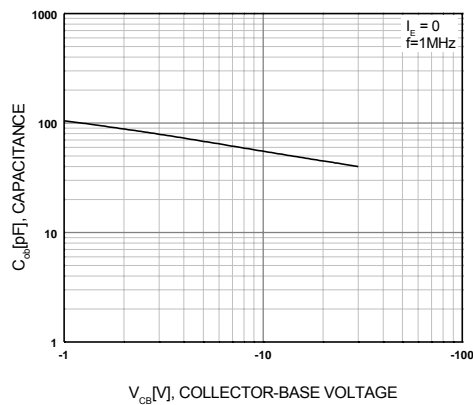


Figure 4. Collector Output Capacitance

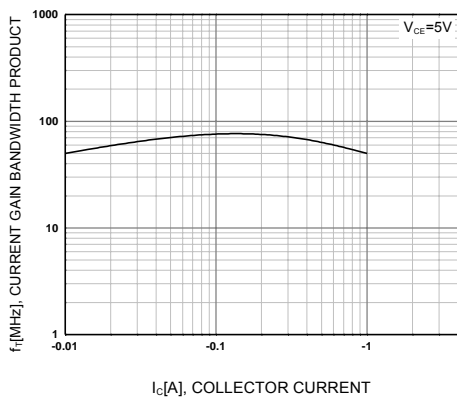


Figure 5. Current Gain Bandwidth Product

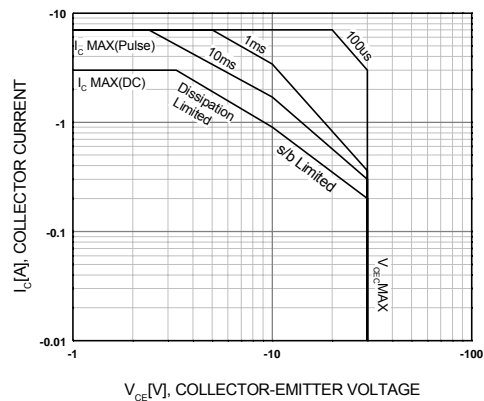


Figure 6. Safe Operating Area