

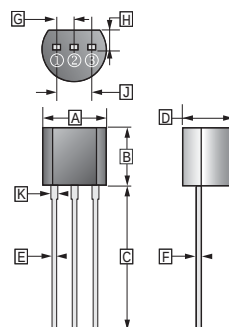
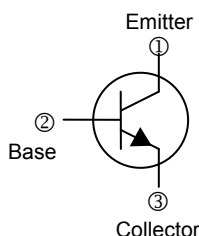
RoHS Compliant Product

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

FEATURES

High Voltage NPN Transistor

TO-92



REF.	Millimeter	
	Min.	Max.
A	4.40	4.70
B	4.30	4.70
C	12.70	-
D	3.30	3.81
E	0.36	0.56
F	0.36	0.51
G	1.27 TYP.	
H	1.10	-
J	2.42	2.66
K	0.36	0.76

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

PARAMETER	SYMBOL	RATING	UNIT
Collector to Base Voltage	V_{CBO}	400	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	0.2	A
Collector Power Dissipation	P_C	625	mW
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

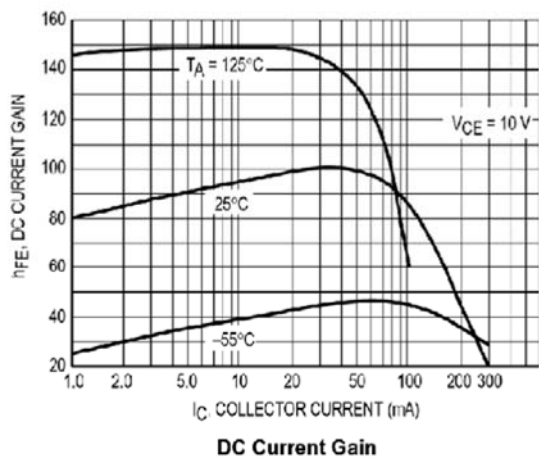
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	400	-	-	V	$I_C=100\mu\text{A}, I_E = 0\text{A}$
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	400	-	-	V	$I_C=1\text{mA}, I_B = 0\text{A}$
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=100\mu\text{A}, I_C = 0\text{A}$
Collector Cut-Off Current	I_{CBO}	-	-	0.1	μA	$V_{CB}=400\text{V}, I_E = 0\text{A}$
Collector Cut-Off Current	I_{CEO}	-	-	5	μA	$V_{CE}=400\text{V}, I_B = 0\text{A}$
Emitter Cut-Off Current	I_{EBO}	-	-	0.1	μA	$V_{EB}=4\text{V}, I_C = 0\text{mA}$
DC Current Gain	$h_{FE(1)}$	80	-	300		$V_{CE}=10\text{V}, I_C=10\text{mA}$
	$h_{FE(2)}$	70	-	-		$V_{CE}=10\text{V}, I_C=1\text{mA}$
	$h_{FE(3)}$	40	-	-		$V_{CE}=10\text{V}, I_C=100\text{mA}$
	$h_{FE(4)}$	80	-	-		$V_{CE}=10\text{V}, I_C=50\text{mA}$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.2	V	$I_C=10\text{mA}, I_B=1\text{mA}$
	$V_{CE(sat)}$	-	-	0.3	V	$I_C=50\text{mA}, I_B=5\text{mA}$
Base to Emitter Voltage	$V_{BE(sat)}$	-	-	0.75	V	$I_C=10\text{mA}, I_B=1\text{mA}$
Transition Frequency	f_T	50	-	-	MHz	$V_{CE} = 20\text{V}, I_C = 10\text{mA}, f=30\text{MHz}$

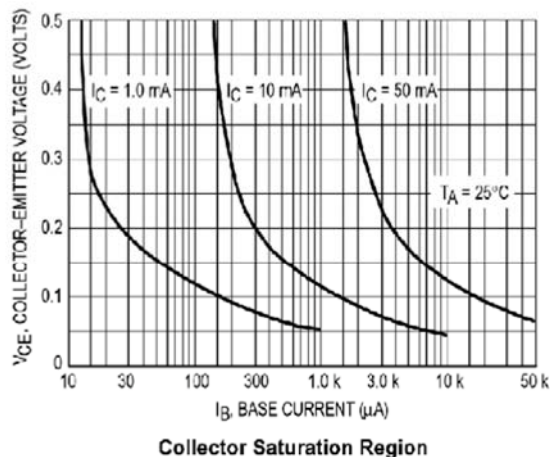
CLASSIFICATION OF $h_{FE(2)}$

Rank	A	B ₁	B ₂	C
Range	80-100	100-150	150-200	200-300

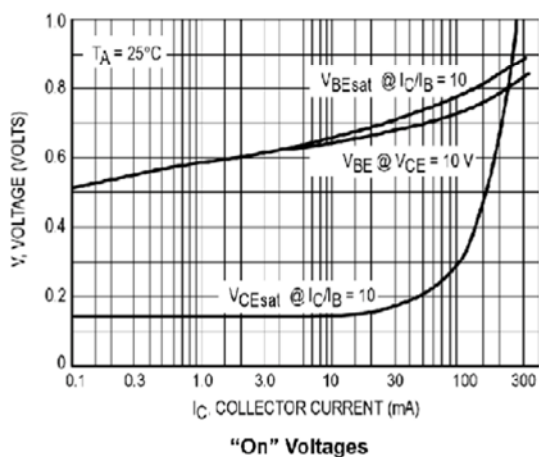
CHARACTERISTIC CURVES



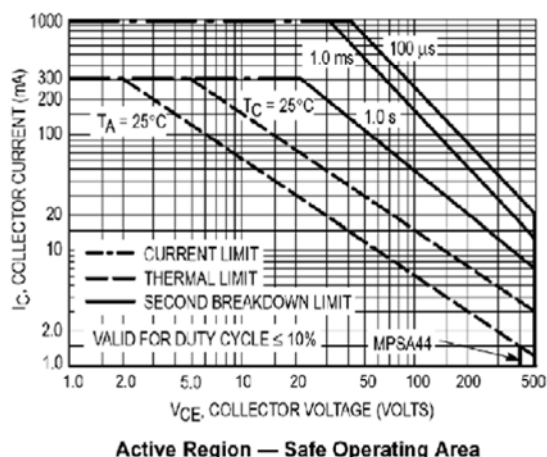
DC Current Gain



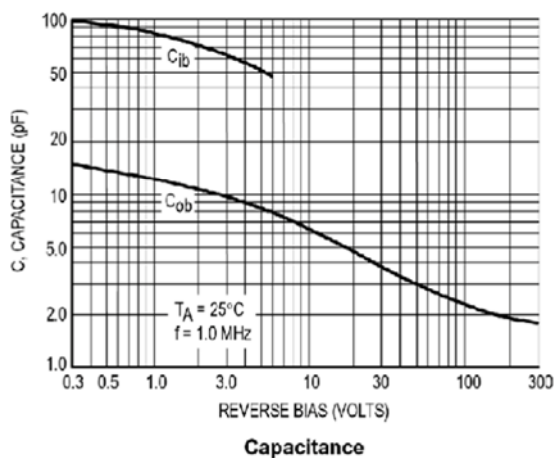
Collector Saturation Region



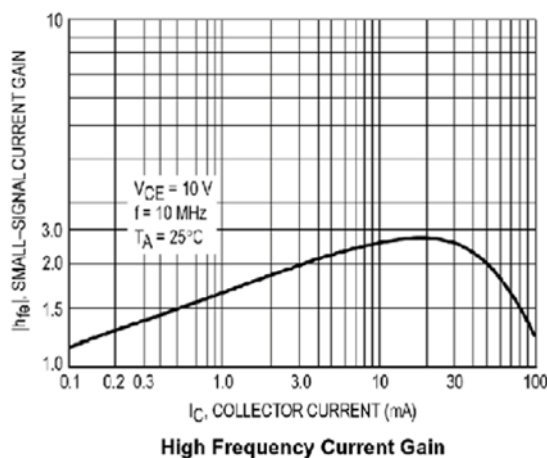
"On" Voltages



Active Region — Safe Operating Area



Capacitance



High Frequency Current Gain