

RoHS Compliant Product  
A suffix of "-C" specifies halogen and lead free

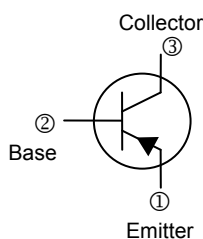
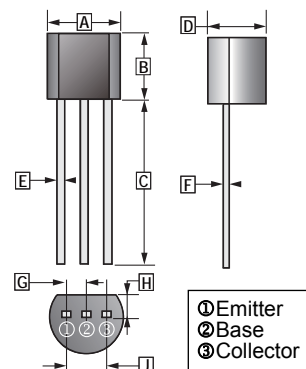
## FEATURES

- Power Dissipation  $P_{CM}$ : 625mW ( $T_a=25^\circ\text{C}$ )
- Collector Current  $I_{CM}$ : -200mA
- Collector – Base Voltage  $V_{(BR)CBO}$ : -40V

## CLASSIFICATION OF $h_{FE}$

Product-Rank	2N3906-O	2N3906-Y
Range	100~200	200~300

### TO-92



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.70	F	0.30	0.51
B	4.30	4.70	G	1.27 TYP.	
C	12.70	-	H	1.10	1.40
D	3.30	3.81	J	2.42	2.66
E	0.36	0.56	K	0.36	0.76

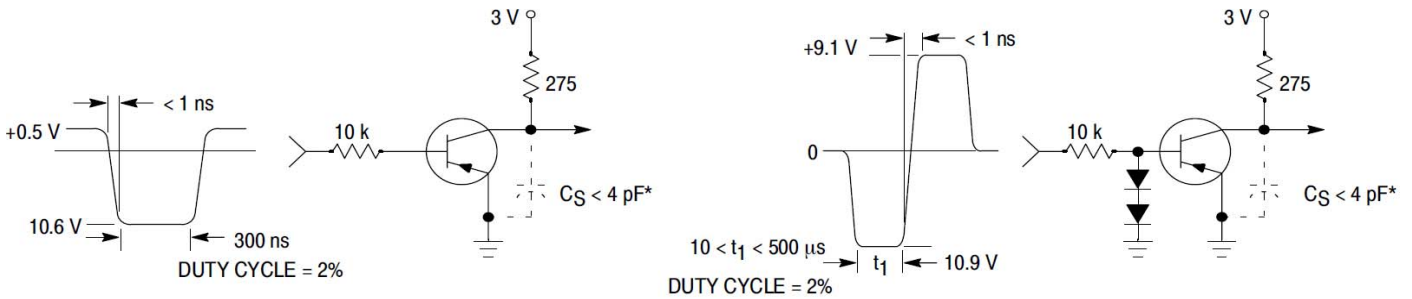
## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector - Base Voltage	$V_{CBO}$	-40	V
Collector - Emitter Voltage	$V_{CEO}$	-40	V
Emitter - 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 Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40	-	-	V	$I_C = -10\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40	-	-	V	$I_C = -1\text{mA}, I_B = 0$
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -100\mu\text{A}, I_C = 0$
Collector Cut-Off Current	$I_{CBO}$	-	-	-0.1	$\mu\text{A}$	$V_{CB} = -40\text{V}, I_E = 0$
Collector Cut-Off Current	$I_{CEX}$	-	-	-50	nA	$V_{CE} = -30\text{V}, V_{BE(off)} = -3\text{V}$
Emitter Cut-Off Current	$I_{EBO}$	-	-	-0.1	$\mu\text{A}$	$V_{EB} = -5\text{V}, I_C = 0$
DC Current Gain	$h_{FE}$	100	-	300		$V_{CE} = -1\text{V}, I_C = -10\text{mA}$
		60	-	-		$V_{CE} = -1\text{V}, I_C = -50\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.4	V	$I_C = -50\text{mA}, I_B = -5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	-0.95	V	$I_C = -50\text{mA}, I_B = -5\text{mA}$
Transition Frequency	$f_T$	250	-	-	MHZ	$V_{CE} = -20\text{V}, I_C = -10\text{mA}, f = 100\text{MHZ}$

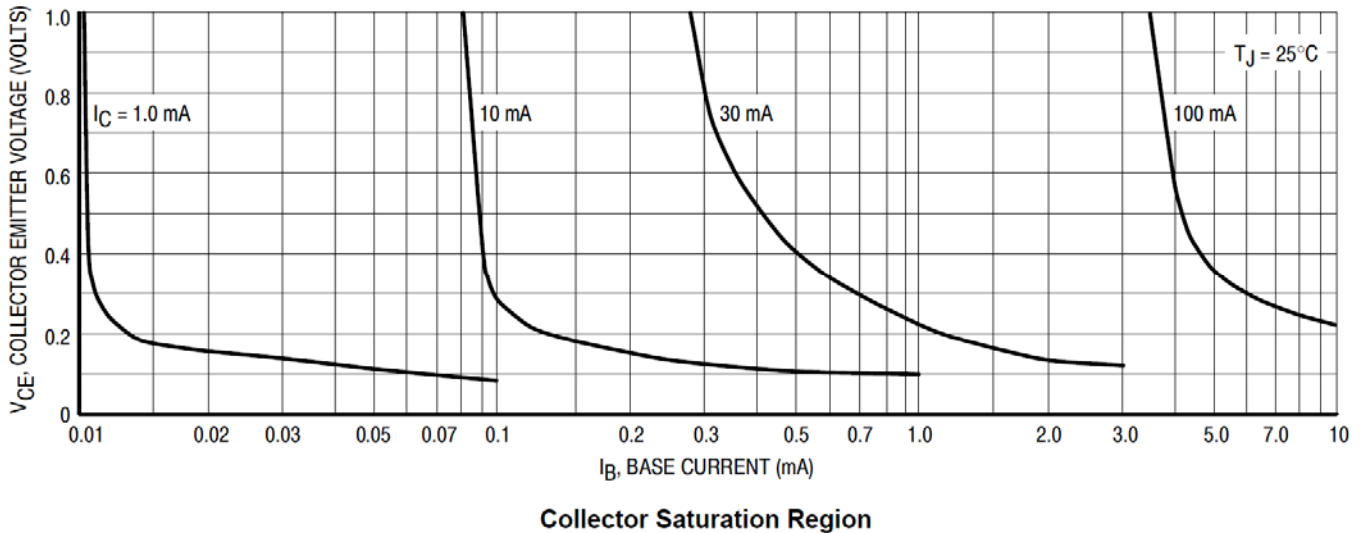
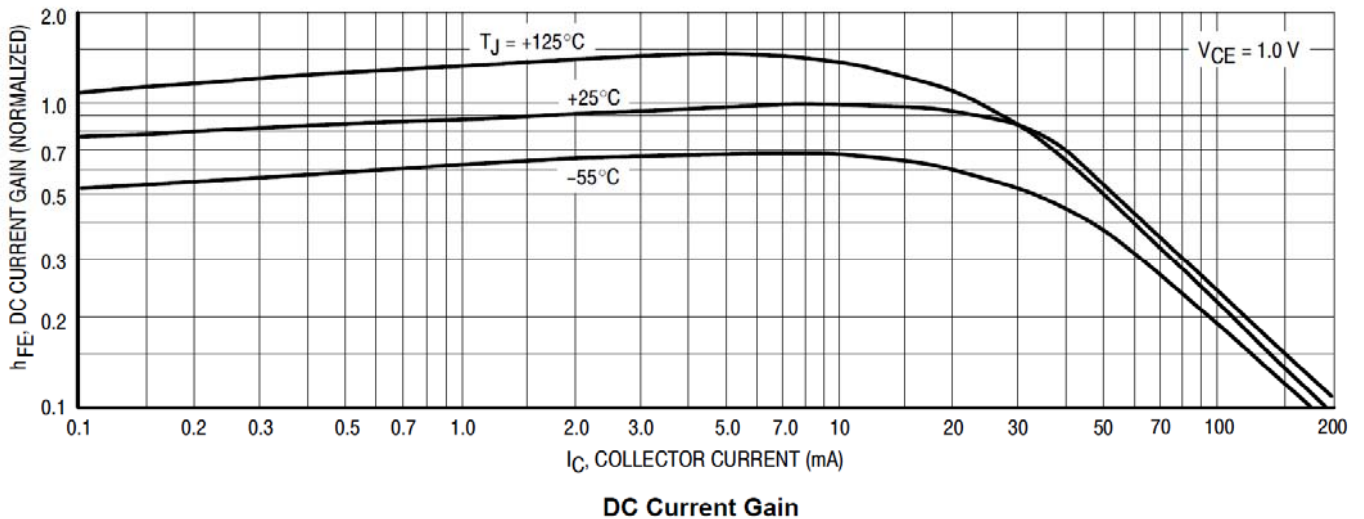
**CHARACTERISTIC CURVES**



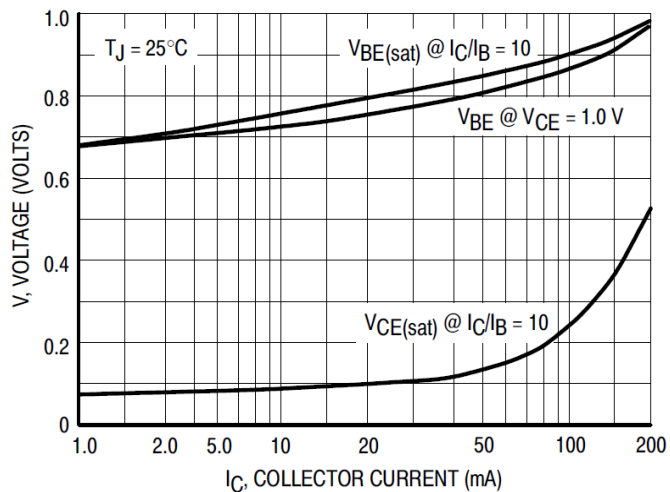
\* Total shunt capacitance of test jig and connectors

**Delay and Rise Time  
Equivalent Test Circuit**

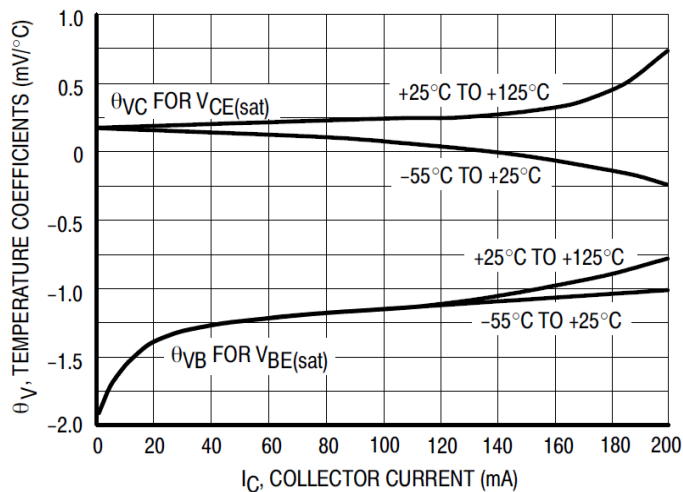
**Storage and Fall Time  
Equivalent Test Circuit**



**CHARACTERISTIC CURVES**



**"ON" Voltages**



**Temperature Coefficients**