

Descriptions

- General small signal application
- Switching application

Features

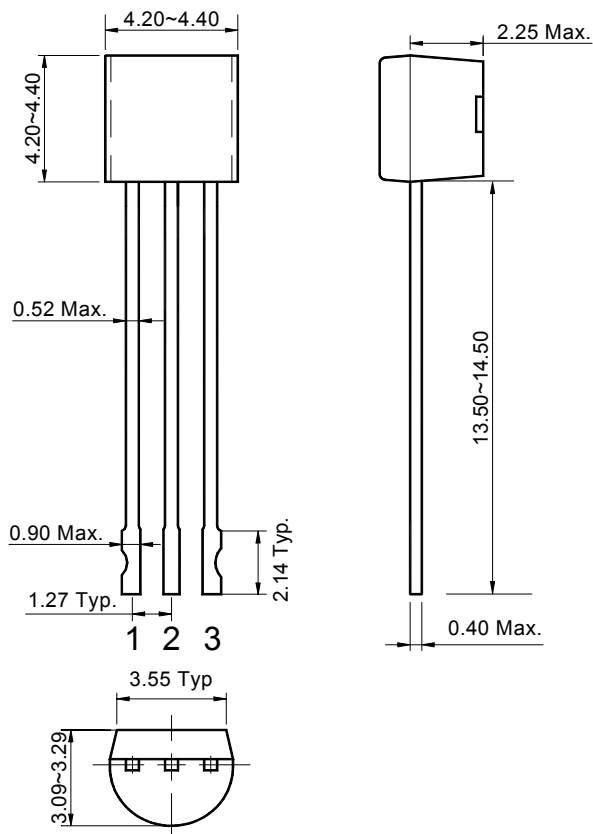
- Low collector-emitter saturation voltage : 0.4V (Max.) @ $I_C = -50\text{mA}$, $I_B = -5\text{mA}$
- Low collector output capacitance : 4.5pF (Max.) @ $V_{CB} = -5\text{V}$, $I_E = 0$, $f = 1\text{MHz}$
- Complementary pair with 2N3904N

Ordering Information

Type NO.	Marking	Package Code
2N3906N	2N3906	T0-92N

Outline Dimensions

unit : mm



PIN Connections

1. Emitter
2. Base
3. Collector

Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-40	V
Collector-emitter voltage	V_{CEO}	-40	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-200	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55~150	°C

Electrical Characteristics

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1\text{mA}$, $I_B = 0$	-40	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -40\text{V}$, $I_E = 0$	-	-	-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$	-	-	-50	nA
DC current gain	h_{FE}	$V_{CE} = -1\text{V}$, $I_C = -10\text{mA}$	100	-	300	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}$, $I_B = -5\text{mA}$	-	-	-0.4	V
Base-emitter voltage	V_{BE}	$V_{CE} = -1\text{V}$, $I_C = -10\text{mA}$	-	-0.73	-0.95	V
Transition frequency	f_T	$V_{CE} = -20\text{V}$, $I_C = -10\text{mA}$	-	350	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -5\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	-	4.5	pF
Turn on delay time	t_d	$V_{CC} = -3\text{V}$, $V_{BE(off)} = -0.5\text{V}$, $I_C = -10\text{mA}$, $I_{B1} = -1\text{mA}$	-	-	35	ns
Rise time	t_r		-	-	35	ns
Storage time	t_{stg}		-	-	225	ns
Fall Time	t_f		-	-	75	ns

Electrical Characteristic Curves

Fig. 1 $P_c - T_a$

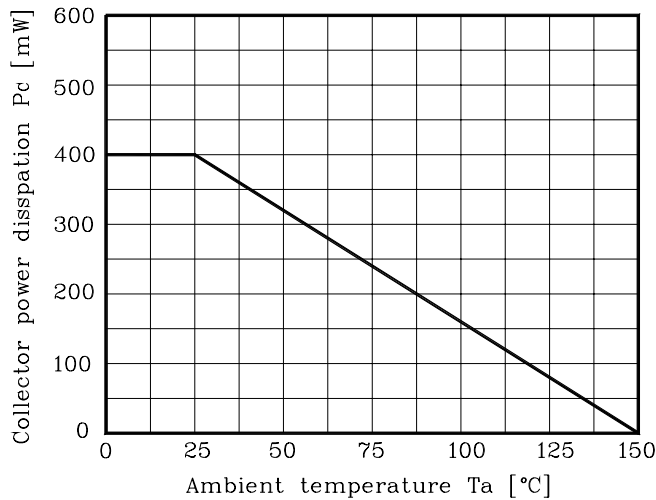


Fig. 2 $h_{FE} - I_C$

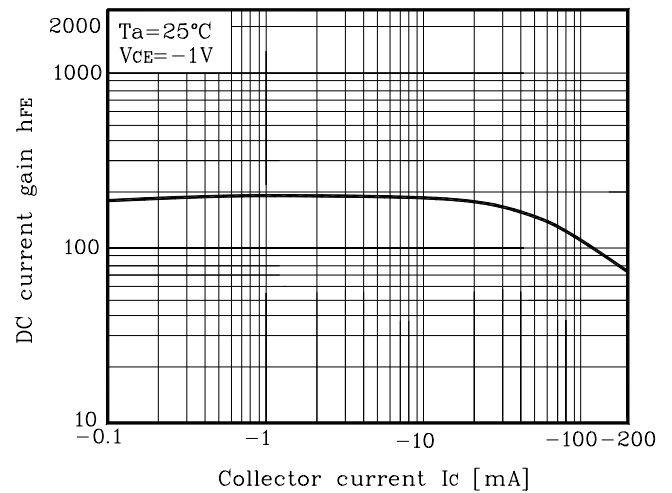
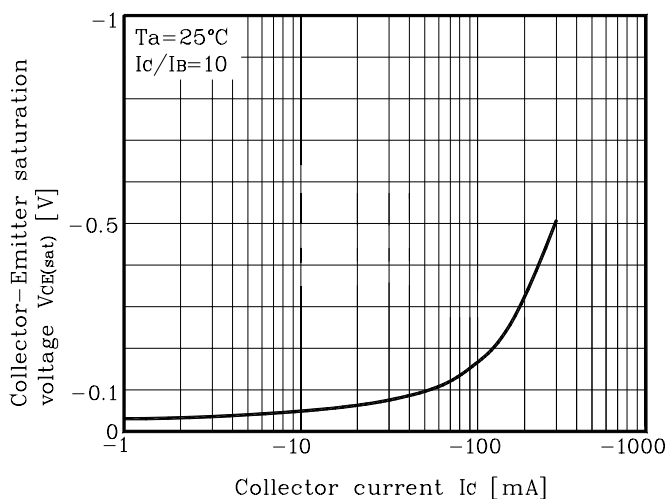


Fig. 3 $V_{CE(sat)} - I_C$



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