



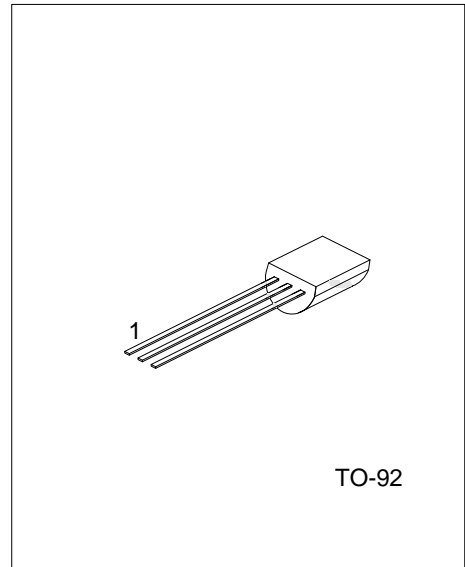
## 2N3906

## PNP EPITAXIAL PLANAR TRANSISTOR

### GENERAL PURPOSE APPLICATION

#### ■ FEATURES

- \* Collector-Emitter Voltage:  $V_{CEO}=40V$
- \* Collector Dissipation:  $P_{c(MAX)}=625mW$
- \* Complementary to UTC 2N3904



#### ■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2N3906L-T92-B	2N3906G-T92-B	TO-92	E	B	C	Tape Box
2N3906L-T92-K	2N3906G-T92-K	TO-92	E	B	C	Bulk
2N3906L-T92-R	2N3906G-T92-R	TO-92	E	B	C	Tape Reel

Note: Pin Assignment: E: EMITTER B: BASE C: COLLECTOR

<p>2N3906L-T92-B</p> <p>(1)Packing Type (2)Package Type (3)Lead Free</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) T92: TO-92 (3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING (Ta=25°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	$I_C$	-200	mA
Base Current	$I_B$	-50	mA
Collector dissipation	$P_C$	625	mW
Junction Temperature	$T_J$	125	°C
Operating Temperature	$T_{OPR}$	-20 ~ +85	°C
Storage Temperature	$T_{STG}$	-40 ~ +150	°C

Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. The device is guaranteed to meet performance specification within 0°C~70°C operating temperature range and assured by design from -20°C~85°C.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	$I_{CEX}$	$V_{CE}=-30V, V_{EB}=-3V$			-50	nA
Base Cut-off Current	$I_{BL}$	$V_{CE}=-30V, V_{EB}=-3V$			-50	nA
Collector-base breakdown voltage	$V_{CBO}$	$I_C=-10\mu A, I_E=0$	-40			V
Collector-emitter breakdown voltage (Note)	$V_{CEO}$	$I_C=-1mA, I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=-10\mu A, I_C=0$	-6			V
DC current gain (note)	$h_{FE1}$	$V_{CE}=-1V, I_C=-0.1mA$	60			
	$h_{FE2}$	$V_{CE}=-1V, I_C=-1mA$	80			
	$h_{FE3}$	$V_{CE}=-1V, I_C=-10mA$	100		300	
	$h_{FE4}$	$V_{CE}=-1V, I_C=-50mA$	60			
	$h_{FE5}$	$V_{CE}=-1V, I_C=-100mA$	30			
Collector-emitter saturation voltage (note)	$V_{CE(SAT)1}$	$I_C=-10mA, I_B=-1mA$			-0.25	V
	$V_{CE(SAT)2}$	$I_C=-50mA, I_B=-5mA$			-0.4	
Base-emitter saturation voltage	$V_{BE(SAT)1}$	$I_C=-10mA, I_B=-1mA$	-0.65		-0.85	V
	$V_{BE(SAT)2}$	$I_C=-50mA, I_B=-5mA$			-0.95	
Transition voltage	$f_T$	$V_{CE}=-20V, I_C=-10mA, f=100MHz$	250			MHz
Output capacitance	$C_{OB}$	$V_{CB}=-5V, I_E=0, f=1MHz$			4.5	pF
Turn on time	$t_{ON}$	$V_{CC}=-3V, V_{BE}=-0.5V, I_C=-10mA, I_{B1}=-1mA$			70	ns
Turn off time	$t_{OFF}$	$I_{B1}=I_{B2}=-1mA$			300	ns

Note: Pulse test:  $PW \leq 300\mu s$ , Duty Cycle  $\leq 2\%$

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