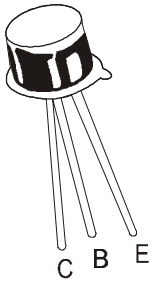
PNP SILICON PLANAR SWITCHING TRANSISTORS

2N2906 2N2907



TO-18
Metal Can Package

Switching and Linear Application

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage	V_{CEO}	40	V
Collector Base Voltage	V_{CBO}	60	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current Continuous	I_C	600	mA
Power Dissipation @ T_a=25ºC Derate Above 25ºC	P_D	400 2.28	mW mW/ ºC
Power Dissipation @ T_c=25ºC Derate Above 25ºC	P_D	1.8 10.3	W mW/ ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200	ºC

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	*V_{CEO}	I_C=10mA, I_B=0	40			V
Collector Base Voltage	V_{CBO}	I_C=10µA, I_E=0	60			V
Emitter Base Voltage	V_{EBO}	I_E=10µA, I_C=0	5			V
Collector Cut Off Current	I_{CEX}	V_{CE}=30V, V_{BE}=0.5V			50	nA
Collector Cut Off Current	I_{CBO}	V_{CB}=50V, I_E=0			20	nA
		V_{CB}=50V, I_E=0, T_a=150ºC			20	µA
Base Current	I_B	V_{CE}=30V, V_{BE}=0.5V			50	nA

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DC Current Gain	h_{FE}	I_C=0.1mA, V_{CE}=10V	>20		>35	
		I_C=1mA, V_{CE}=10V	>25		>50	
		I_C=10mA, V_{CE}=10V	>35		>75	
		*I_C=150mA, V_{CE}=10V	40 - 120		100 - 300	
		*I_C=500mA, V_{CE}=10V	>20		>30	

***Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤ 2%**

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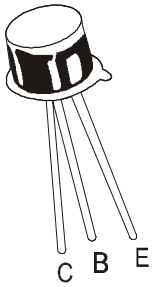

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ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Saturation Voltage	$^*V_{CE\ (sat)}$	I_C=150mA, I_B=15mA			0.4	V
		I_C=500mA, I_B=50mA			1.6	V
Base Emitter Saturation Voltage	$^*V_{BE\ (sat)}$	I_C=150mA, I_B=15mA			1.3	V
		I_C=500mA, I_B=50mA			2.6	V
Transition Frequency	$^{**}f_T$	I_C=50mA, V_{CE}=20V, f=100MHz	200			MHz
Output Capacitance	C_{obo}	V_{CB}=10V, I_E=0, f=100KHz			8.0	pF
	C_{ibo}	V_{BE}=2V, I_C=0, f=100KHz			30	pF

SWITCHING TIME

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Delay Time	t_d	I_C=150mA, I_{B1}=15mA, V_{CC}=30V			10	ns
Rise Time	t_r				40	ns
Turn On Time	t_{on}				45	ns
Storage Time	t_s	I_C=150mA, I_{B1}= I_{B2}=15mA, V_{CC}=6V			80	ns
Fall Time	t_f				30	ns
Turn Off Time	t_{off}				100	ns

***Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%**
**** f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity**

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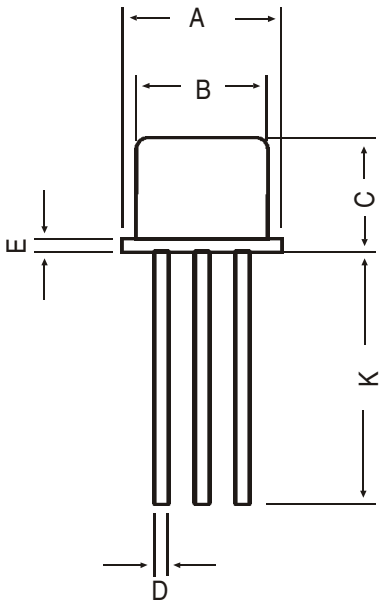
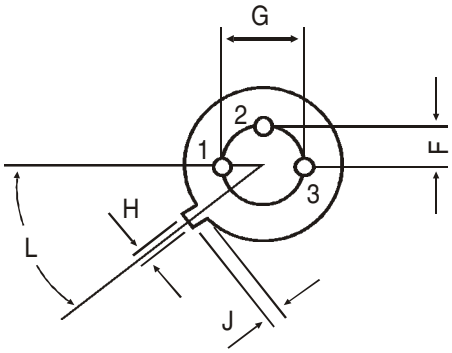
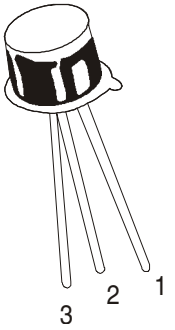




All diminsions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	



PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-18	1K/polybag	350 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	34 kgs

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Metal Can Package

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.

2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

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