2N2906 · 2N2906A
PN2906 · PN2906A

PNP SILICON GENERAL PURPOSE AMPLIFIERS AND SWITCHES

THE 2N2906, 2N2906A, PN2906, PN2906A ARE PNP SILICON PLANAR EPITAXIAL TRANSISTORS FOR GENERAL PURPOSE AMPLIFIERS AND MEDIUM SPEED SWITCHING APPLICATIONS. THEY ARE COMPLEMENTARY TO THE NPN TYPE 2N2221, 2N2221A, PN2221, PN2221A RESPECTIVELY.
THE 2N2906, 2N2906A ARE PACKED IN TO-18.
THE PN2906, PN2906A ARE PACKED IN TO-92A.

CASE TO-18

CBE

2N2906
2N2906A

CASE TO-92A

EBC

PN2906
PN2906A

ABSOLUTE MAXIMUM RATINGS		2N2906	2N2906A	PN2906	PN2906A
Collector-Base Voltage	$-V_{CBO}$	60V	60V	60V	60V
Collector-Emitter Voltage	$-V_{CEO}$	40V	60V	40V	60V
Emitter-Base Voltage	$-V_{EBO}$	5V	5V	5V	5V
Collector Current	$-I_C$	0.6A	0.6A	0.6A	0.6A
Total Power Dissipation ($T_C \leq 25^oC$)	P_{tot}	1.8W	1.8W	1.2W	1.2W
($T_A \leq 25^oC$)		400mW	400mW	500mW	500mW
Junction Temperature	T_j	200°C	200°C	150°C	150°C
Storage Temperature Range	T_{stg}	-65 to 200°C		-55 to 150°C	

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	2N2906 PN2906 MIN	MAX	2N2906A PN2906A MIN	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	$-BV_{CBO}$	60		60		V	$-I_C$=0.01mA IE=0
Collector-Emitter Breakdown Voltage	$-LV_{CEO}$ *	40		60		V	$-I_C$=10mA I_B=0
Emitter-Base Breakdown Voltage	$-BV_{EBO}$	5		5		V	$-I_E$=0.01mA I_C=0
Collector Cutoff Current	$-I_{CBO}$		20		10	nA	$-V_{CB}$=50V I_E=0
			20		10	µA	$-V_{CB}$=50V I_E=0 T_A=150°C
Collector Cutoff Current	$-I_{CEV}$		50		50	nA	$-V_{CE}$=30V $-V_{EB}$=0.5V
Base Cutoff Current	$-I_{BL}$		50		50	nA	$-V_{CE}$=30V $-V_{EB}$=0.5V
Collector-Emitter Saturation Voltage	$-V_{CE(sat)}$*		0.4		0.4	V	$-I_C$=150mA $-I_B$=15mA
			1.6		1.6	V	$-I_C$=500mA $-I_B$=50mA

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PARAMETER	SYMBOL	2N2906 PN2906 MIN	MAX	2N2906A PN2906A MIN	MAX	UNIT	TEST CONDITIONS
Base-Emitter Saturation Voltage	$V_{BE(sat)}$*		1.3		1.3	V	$-I_C$=150mA $-I_B$=15mA
			2.6		2.6	V	$-I_C$=500mA $-I_B$=50mA
D.C. Current Gain	H_{FE} *	20		40			$-I_C$=0.1mA $-V_{CE}$=10V
		25		40			$-I_C$=1mA $-V_{CE}$=10V
		35		40			$-I_C$=10mA $-V_{CE}$=10V
		40	120	40	120		$-I_C$=150mA $-V_{CE}$=10V
		20		40			$-I_C$=500mA $-V_{CE}$=10V
Current Gain-Bandwidth Product	f_T	200		200		MHz	$-I_C$=50mA $-V_{CE}$=20V
Collector-Base Capacitance	C_{ob}		8		8	pF	$-V_{CB}$=10V I_E=0 f=100kHz
Emitter-Base Capacitance	C_{ib}		30		30	pF	$-V_{EB}$=2V I_C=0 f=100kHz
Turn-On Time	t_{on}				45	nS	$-I_C$=150mA $-I_{B1}$=15mA $-V_{cc}$=30V
Turn-Off Time	t_{off}				100	nS	$-I_C$=150mA $-I_{B1}=I_{B2}$=15mA $-V_{cc}$=6V
Delay Time	t_d		10		10	nS	$-I_C$=150mA $-I_{B1}$=15mA $-V_{cc}$=30V
Rise Time	t_r		40		40	nS	$-I_C$=150mA $-I_{B1}$=15mA $-V_{cc}$=30V
Storage Time	t_s		80		80	nS	$-I_C$=150mA $-I_{B1}=I_{B2}$=15mA $-V_{cc}$=6V
Fall Time	t_f		30		30	nS	$-I_C$=150mA $-I_{B1}=I_{B2}$=15mA $-V_{cc}$=6V

* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

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