MICRO ELECTRONICS

2N2907
2N2907A
PN2907
PN2907A

THE 2N2907, 2N2907A, PN2907, PN2907A ARE PNP SILICON PLANAR EPITAXIAL TRANSISTORS FOR GENERAL PURPOSE AMPLIFIERS AND MEDIUM SPEED SWITCHING APPLICATIONS. THEY ARE COMPLEMENTARY TO THE NPN TYPE 2N2222, 2N2222A, PN2222, PN2222A RESPECTIVELY. THE 2N2907, 2N2907A ARE PACKED IN TO-18. THE PN2907, PN2907A ARE PACKED IN TO-92A.

CASE TO-18

CBE

2N2907
2N2907A

CASE TO-92A

EBC

PN2907
PN2907A

ABSOLUTE MAXIMUM RATINGS		2N2907	2N2907A	PN2907	PN2907A
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 ($T_C \leqslant 25^oC$)	P_{tot}	1.8W	1.8W	1.2W	1.2W
($T_A \leqslant 25^oC$)		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	2N2907 PN2907 MIN	MAX	2N2907A PN2907A MIN	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	$-BV_{CBO}$	60		60		V	$-I_C$=0.01mA I_E=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

MICRO ELECTRONICS LTD. 美科有限公司
38, Hung To Road, Microtron Building, Kwun Tong, Kowloon, Hong Kong.
Kwun Tong P.O. Box 69477 Hong Kong. Fax No. 341 0321 Telex: 43510 Micro Hx. Tel: 343 0181–5

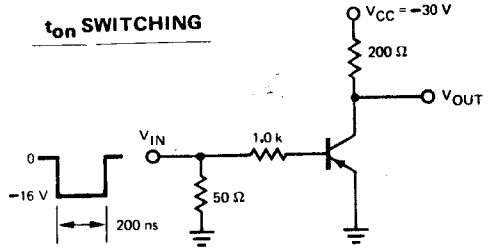
- - - Continued - - -

PARAMETER	SYMBOL	2N2907 PN2907 MIN	2N2907 PN2907 MAX	2N2907A PN2907A MIN	2N2907A PN2907A 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} *	35		75			$-I_C$=0.1mA $-V_{CE}$=10V
		50		100			$-I_C$=1mA $-V_{CE}$=10V
		75		100			$-I_C$=10mA $-V_{CE}$=10V
		100	300	100	300		$-I_C$=150mA $-V_{CE}$=10V
		30		50			$-I_C$=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%

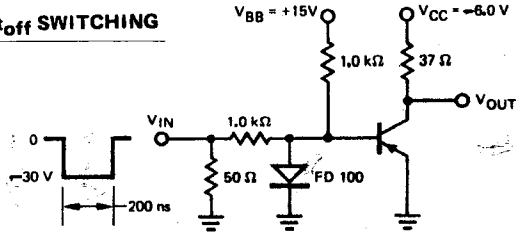
SWITCHING TIME TEST CIRCUITS

t_{on} SWITCHING



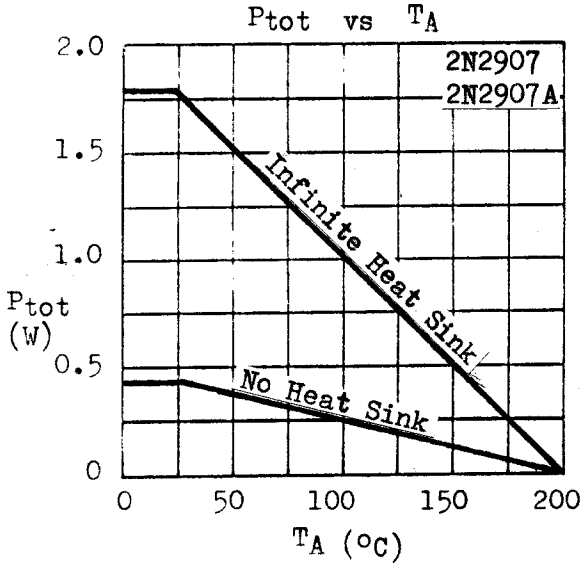
$t_r \leq 2.0$ ns

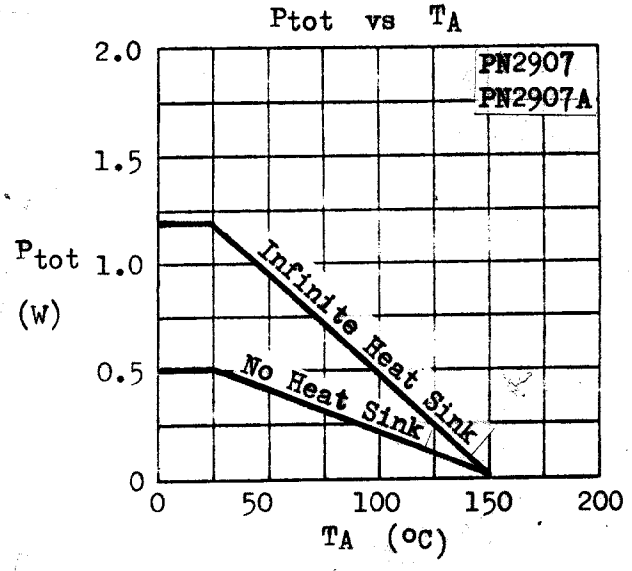
t_{off} SWITCHING



$t_r \leq 2.0$ ns

All waveforms are monitored on an oscilloscope with $R_{in} \geq 100K\Omega$, $C_{in} \leq 12pF$, $t_r \leq 5nS$.





TYPICAL CHARACTERISTICS

(T_A=25°C unless otherwise noted)