

2N 3707 through 2N 3711 2N 4058 through 2N 4062

NPN . PNP SILICON AF SMALL SIGNAL TRANSISTORS

THE 2N3707 THROUGH 2N3711 (NPN) AND 2N4058 THROUGH 2N4062 (PNP) ARE COMPLEMENTARY SILICON PLANAR EPITAXIAL TRANSISTORS FOR USE IN AF SMALL SIGNAL AMPLIFIER STAGES AND DIRECT COUPLED CIRCUITS.

CASE TO-92B



ECB

<u>ABSOLUTE MAXIMUM RATINGS</u>		<u>(NPN)</u>		<u>(PNP)</u>	
For p-n-p devices, voltage and current values are negative.		<u>2N3707 thru' 2N3711</u>	<u>2N4058 thru' 2N4062</u>		
Collector-Base Voltage	V _{CBO}	30V	30V		
Collector-Emitter Voltage	V _{CEO}	30V	30V		
Emitter-Base Voltage	V _{EBO}	6V	6V		
Collector Current	I _C	200mA	100mA	**	
Total Power Dissipation (T _A ≤ 25°C)	P _{tot}	360mW			

Operating Junction & Storage Temperature T_j, T_{stg}

-55 to 150°C

** 30mA in JEDEC registration.

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

PARAMETER	SYMBOL	NPN		PNP		UNIT	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
Collector-Base Breakdown Voltage	BV _{CBO}	30		30		V	I _C =0.01mA I _E =0
Collector-Emitter Breakdown Voltage	LV _{CEO}	30		30		V	I _C =1mA I _B =0 (Pulsed)
Collector Cutoff Current	I _{CBO}		100		100	nA	V _{CB} =20V I _E =0
Emitter Cutoff Current	I _{EBO}		100		100	nA	V _{EB} =6V I _C =0
Collector-Emitter Saturation Voltage	V _{CE(sat)}		1		0.7	V	I _C =10mA I _B =0.5mA
Base-Emitter Voltage	V _{BE}	0.5	1	0.5	1	V	I _C =1mA V _{CE} =5V
Noise Figure *	NF					5	dB
							I _C =0.1mA V _{CE} =5V R _G =5KΩ f=30Hz-15KHz
							I _C =0.1mA V _{CE} =5V R _G =10KΩ f=30Hz-15KHz

* For 2N3707 and 2N4058 only.

MICRO ELECTRONICS LTD.

38 HUNG TO ROAD, KWUN TONG, HONG KONG. TELEX 43510
KWUN TONG P. O. BOX 69427 CABLE ADDRESS "MICROTRON"
TELEPHONE:- 3-430181-0 3-893363. 3-892423
FAX: 3-410321

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D.C. AND SMALL SIGNAL CURRENT GAIN (H_{FE} , h_{fe}) AT $V_{CE}=5V$ $T_A=25^\circ C$

PARAMETER	NPN PNP	2N3707		2N3708		2N3709		2N3710		2N3711	
		2N4058		2N4059		2N4060		2N4061		2N4062	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
H_{FE} at $I_C=0.1mA$		100	400								
H_{FE} at $I_C=1mA$				45	660	45	165	90	330	180	660
h_{fe} at $I_C=0.1mA$ $f=1KHz$		100	550								
h_{fe} at $I_C=1mA$ $f=1KHz$				45	800	45	250	90	450	180	800

TYPICAL CHARACTERISTICS AT $T_A=25^\circ C$

