

TYPES 2N4058 THRU 2N4062, A5T4058 THRU A5T4062, A8T4058 THRU A8T4062 P-N-P SILICON TRANSISTORS

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SILECT† TRANSISTORS‡

- Ideal for Low-Level Amplifier Applications
- Rugged One-Piece Construction with In-Line Leads or Standard TO-18 100-mil Pin-Circle Configuration
- Recommended for Complementary Use with 2N3707 thru 2N3711, A5T3707 thru A5T3711, or A8T3707 thru A8T3711

mechanical data

These transistors are encapsulated in a plastic compound specifically designed for this purpose, using a highly mechanized process developed by Texas Instruments. The case will withstand soldering temperatures without deformation. These devices exhibit stable characteristics under high-humidity conditions and are capable of meeting MIL-STD-202C, Method 106B. The transistors are insensitive to light.

2N4058 THRU 2N4062, A8T4058 THRU A8T4062
*ALL JEDEC TO-92 DIMENSIONS AND NOTES ARE APPLICABLE

NOTES: A. Lead diameter is not controlled in this area.
B. All dimensions are in inches.

DEVICE	LEAD		
	1	2	3
2N4058 thru 2N4062	Emitter	Collector	Base
A8T4058 thru A8T4062	Emitter	Base	Collector

**2N4058
thru
2N4062**

ECB

**A8T4058
thru
A8T4062**

EBC

A5T4058 THRU A5T4062

NOTES: A. Lead diameter is not controlled in this area.
B. Leads having maximum diameter (0.019) shall be within 0.007 of their true positions measured in the gaging plane 0.054 below the seating plane of the device relative to a maximum diameter package.
C. All dimensions are in inches.

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absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)

Collector-Base Voltage	-30 V*				
Collector-Emitter Voltage (See Note 1)	-30 V*				
Emitter-Base Voltage	-6 V*				
Continuous Collector Current	-30 mA*				
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 2)	<table style="display: inline-table; vertical-align: middle;"> <tr> <td style="font-size: 2em;">}</td> <td>625 mW§</td> </tr> <tr> <td></td> <td>360 mW*</td> </tr> </table>	}	625 mW§		360 mW*
}	625 mW§				
	360 mW*				
Storage Temperature Range	-65°C to 150°C*				
Lead Temperature 1/16 Inch from Case for 10 Seconds	260°C*				

NOTES: 1. This value applies when the base-emitter diode is open circuited.
2. Derate the 625 mW rating linearly to 150°C free-air temperature at the rate of 5 mW/°C. Derate the 360 mW (JEDEC registered) rating linearly to 150°C free-air temperature at the rate of 2.88 mW/°C.

*The asterisk identifies JEDEC registered data for the 2N4058 through 2N4062 only. This data sheet contains all applicable registered data in effect at the time of publication.

† Trademark of Texas Instruments

‡ U.S. Patent No. 3,439,238

§ Texas Instruments guarantees this value in addition to the JEDEC registered value which is also shown.

USES CHIP P18

TYPES 2N4058 THRU 2N4062, A5T4058 THRU A5T4062, A8T4058 THRU A8T4062 P-N-P SILICON TRANSISTORS

*electrical characteristics at 25°C free-air temperature

PARAMETER	TEST CONDITIONS	2N4058	2N4059	2N4060	2N4061	2N4062	UNIT
		A5T4058	A5T4059	A5T4060	A5T4061	A5T4062	
		A8T4058	A8T4059	A8T4060	A8T4061	A8T4062	
		MIN MAX	MIN MAX	MIN MAX	MIN MAX	MIN MAX	
$V_{(BR)CEO}$ Collector-Emitter Breakdown Voltage	$I_C = -1 \text{ mA}$, $I_B = 0$, See Note 3	-30	-30	-30	-30	-30	V
I_{CBO} Collector Cutoff Current	$V_{CB} = -20 \text{ V}$, $I_E = 0$	-100	-100	-100	-100	-100	nA
I_{EBO} Emitter Cutoff Current	$V_{EB} = -6 \text{ V}$, $I_C = 0$	-100	-100	-100	-100	-100	nA
h_{FE} Static Forward Current Transfer Ratio	$V_{CE} = -5 \text{ V}$, $I_C = -100 \mu\text{A}$	100 400					
	$V_{CE} = -5 \text{ V}$, $I_C = -1 \text{ mA}$		45 660	45 165	90 330	180 660	
V_{BE} Base-Emitter Voltage	$V_{CE} = -5 \text{ V}$, $I_C = -1 \text{ mA}$	-0.5 -1	-0.5 -1	-0.5 -1	-0.5 -1	-0.5 -1	V
$V_{CE(sat)}$ Collector-Emitter Saturation Voltage	$I_B = -0.5 \text{ mA}$, $I_C = -10 \text{ mA}$	-0.7	-0.7	-0.7	-0.7	-0.7	V
h_{fe} Small-Signal Common-Emitter Forward Current Transfer Ratio	$V_{CE} = -5 \text{ V}$, $I_C = -100 \mu\text{A}$, $f = 1 \text{ kHz}$	100 550					
	$V_{CE} = -5 \text{ V}$, $I_C = -1 \text{ mA}$, $f = 1 \text{ kHz}$		45 800	45 250	90 450	180 800	

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*operating characteristics at 25°C free-air temperature

PARAMETER	TEST CONDITIONS	2N4058, A5T4058, A8T4058			UNIT
		MIN	TYP	MAX	
		\bar{F} Average Noise Figure	$V_{CE} = -5 \text{ V}$, $I_C = -100 \mu\text{A}$, Noise Bandwidth = 15.7 kHz, $R_G = 5 \text{ k}\Omega$, See Note 4		

NOTES: 3. This parameter must be measured using pulse techniques: $t_w = 300 \mu\text{s}$, duty cycle $\leq 2\%$.

4. Average Noise Figure is measured in an amplifier with response down 3 dB at 10 Hz and 10 kHz and a high-frequency rolloff of 6 dB/octave.

*The asterisk identifies JEDEC registered data for 2N4058 through 2N4062 only.

THERMAL INFORMATION DISSIPATION DERATING CURVE

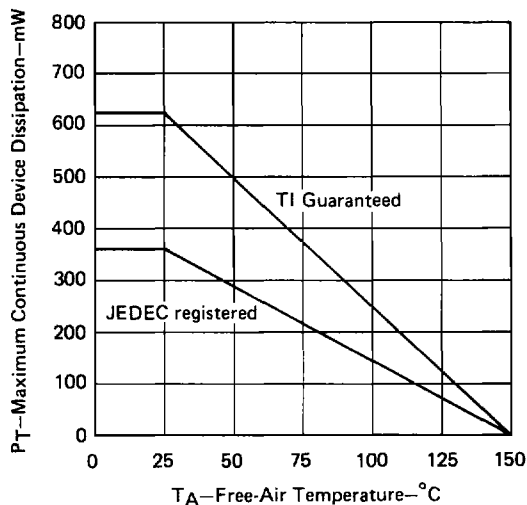


FIGURE 1