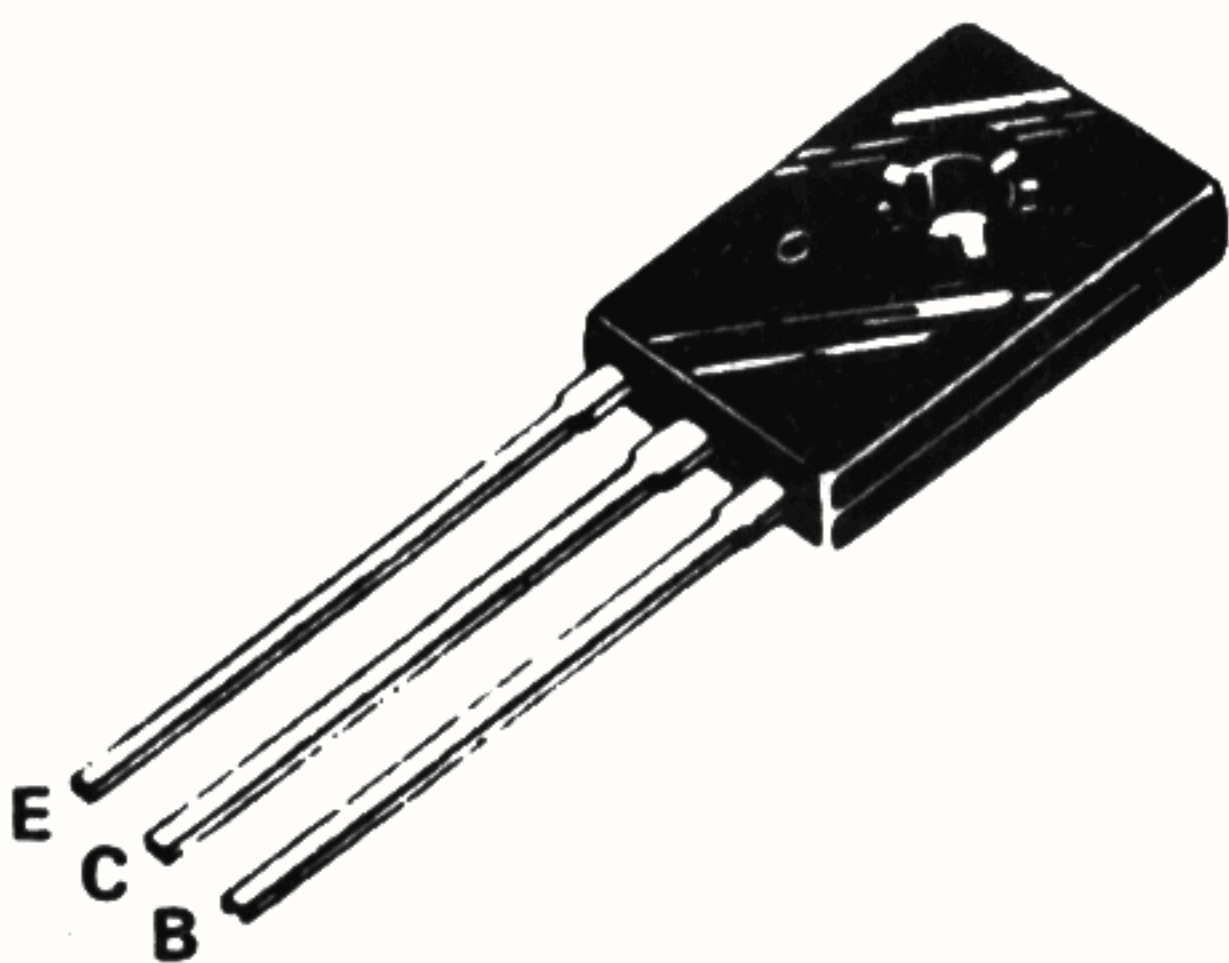


PRELIMINARY DATA SHEET

NPN SILICON MEDIUM-POWER TRANSISTOR

- Designed for 5 to 10W Audio Amplifiers
- BD561 is complementary to BD562
- P_D of 40W with T_j of 150° C
- Case 77 package is Pin compatible with SOT-9

4 AMPERE
POWER TRANSISTOR
NPN SILICON
40 VOLTS
40 WATTS

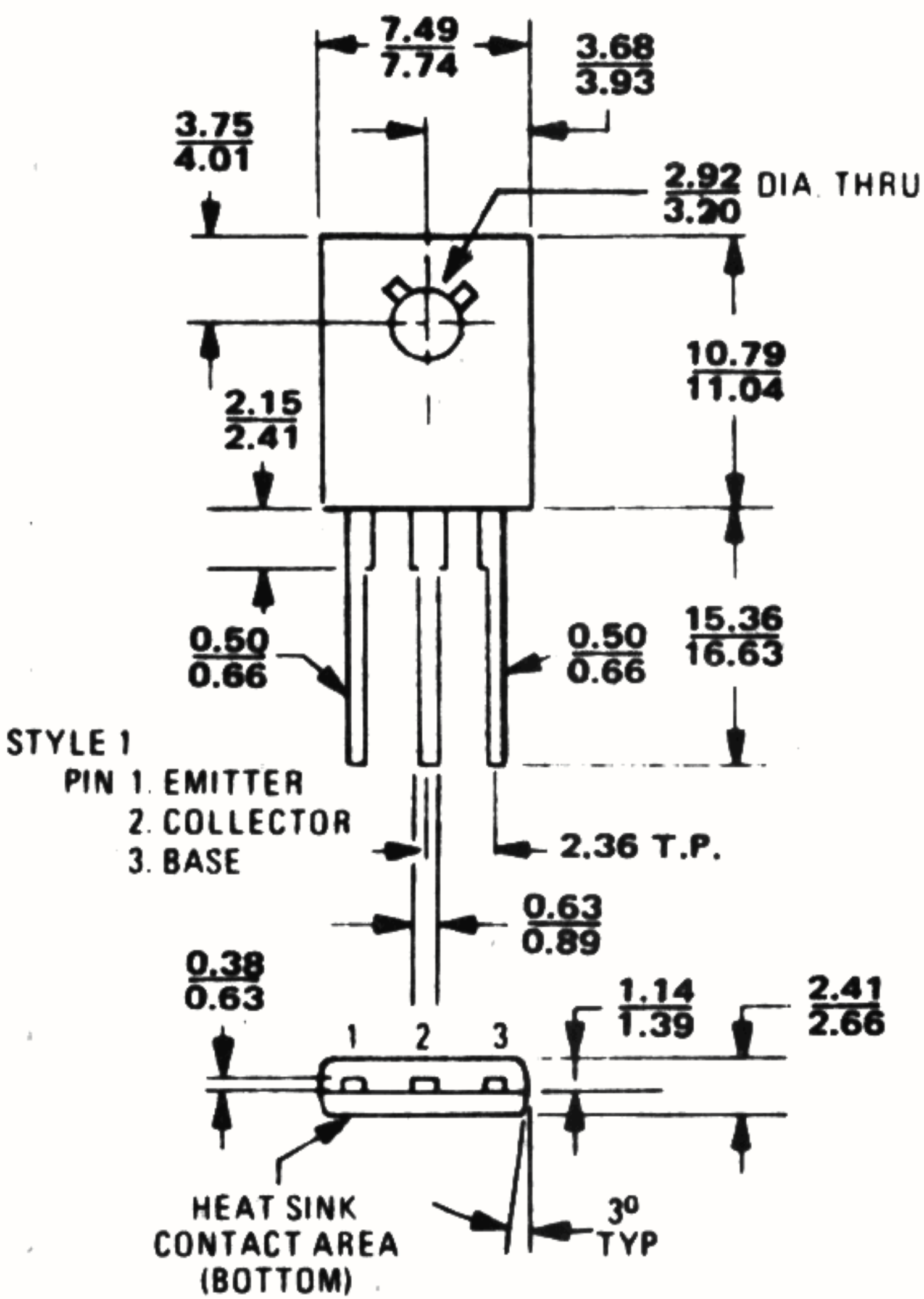


MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CE0}	40	Vdc
Collector-Base Voltage	V_{CB0}	45	Vdc
Emitter-Base Voltage	V_{EB0}	5	Vdc
Collector Current	I_C	4	Adc
Base Current	I_B	2	Adc
Total Device Dissipation $T_c = 25^\circ\text{C}$	P_D	40	Watts
Derate above 25° C		320	mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +150	°C

THERMAL CHARACTERISTICS

	Symbol	Max.	Unit
Thermal Resistance, Junction to Case	θ_{JC}	3.12	°C/W



When mounting the device, torque not to exceed 0.07 m·kg

If lead bending is required, use suitable clamps or other supports
between transistor case and point of bend.

Case 77-04

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
Collector-Emitter Sustaining Voltage ($I_C = 0.1\text{ A}$, $I_B = 0$)	$V_{CEO(sus)}$	40	—	Vdc
Collector Cutoff Current ($V_{CB} = 45\text{ V}$, $I_E = 0$)	I_{CBO}	—	0.1	mAdc
Emitter Cutoff Current ($V_{BE} = 5.0\text{ V}$, $I_C = 0$)	I_{EBO}	—	0.1	mAdc
DC Current Gain ($I_C = 50\text{ mA}$, $V_{CE} = 1.0\text{ V}$) * ($I_C = 500\text{ mA}$, $V_{CE} = 1.0\text{ V}$) * ($I_C = 2.0\text{ A}$, $V_{CE} = 1.0\text{ V}$) *	h_{FE}	40 60 40	— — —	—
Collector-Emitter Saturation Voltage ($I_C = 1.0\text{ A}$, $I_B = 0.1\text{ A}$) *	$V_{CE(sat)}$	—	0.5	Vdc
Base-Emitter On Voltage ($I_C = 2.0\text{ A}$, $V_{CE} = 1.0\text{ V}$) *	$V_{BE(on)}$	—	1.2	Vdc

* Pulse Test: Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2.0\%$

