

**2N7372 - PNP**  
**2N7373 - NPN**

**APPLICATIONS:**

- Power Supply
- Inverters and Converters
- General Purpose Amplifiers

**FEATURES:**

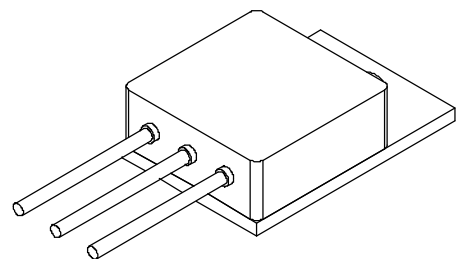
- Planar Process for Reliability
- Fast Switching
- High-Frequency Power Transistors
- For Complementary Use with Each Other
- 15 mj Reverse Energy Rating with  $I_C = 10\text{MA}$  and 4 V Reverse Bias
- Similar to 2N5004 and 2N5005 but JEDEC TO-254AA Package
- Leads can be Formed
- All Terminals Isolated from the Case

**Complimentary  
 Power Transistors  
 in Hermetic Isolated  
 TO-254AA Packages  
 JAN/TX/TXV/JANS**

**DESCRIPTION:**

These power transistors are produced by PPC's MULTIPLE DIFFUSED PLANAR process. This technology produces high voltage devices with excellent switching speeds, frequency response, gain linearity, saturation voltages, high current gain, and safe operating areas. These devices have excellent unclamped and clamped reverse energy ratings with the base to emitter reversed biased.

Ultrasonically bonded wire leads and gold eutectic die bonding are utilized to permit operating temperature to 200°C. The hermetically sealed package insures maximum reliability and long life. The isolated low profile package allows for easy PC board fit.



**TO-254AA**

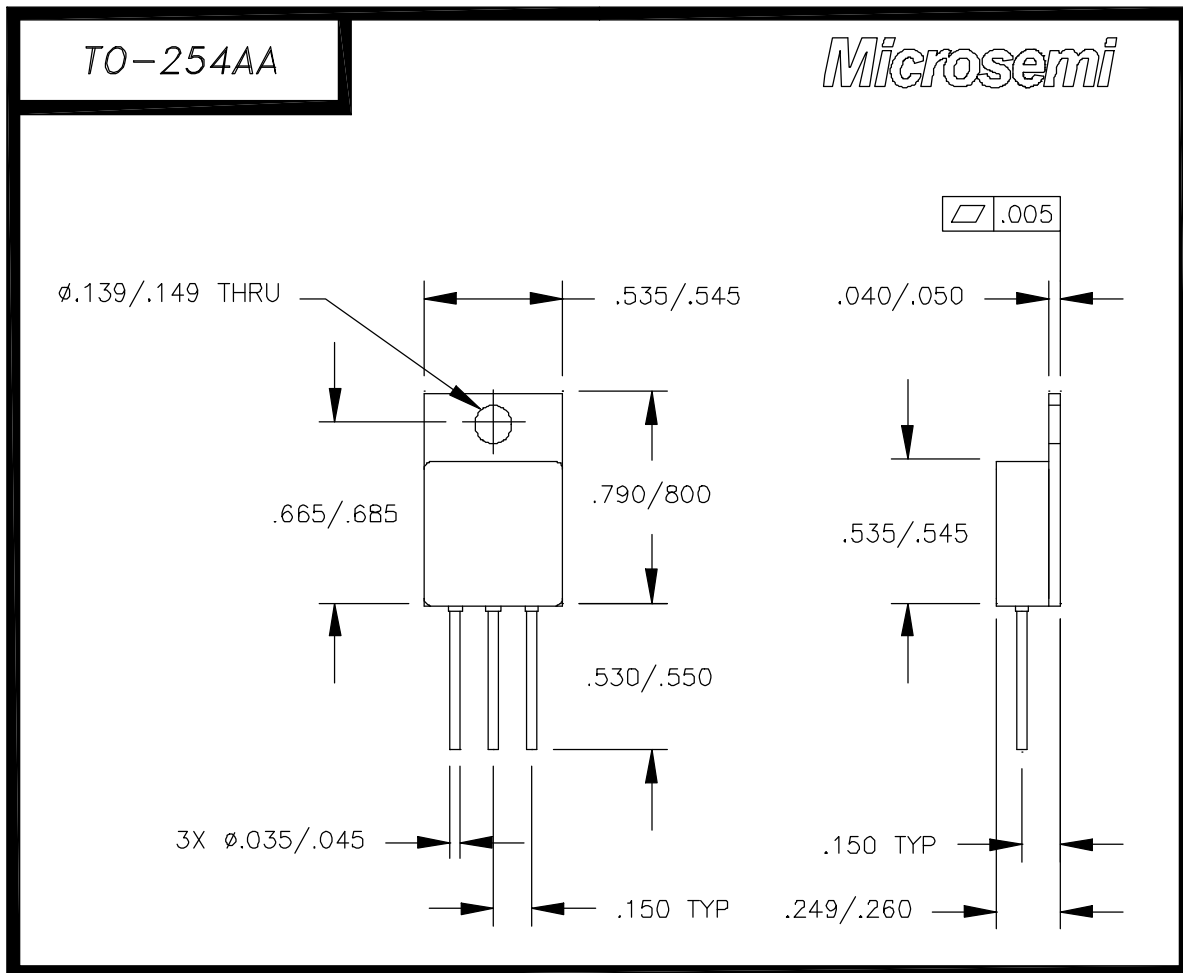
**ABSOLUTE MAXIMUM RATINGS:**

SYMBOL	CHARACTERISTIC	2N7372	2N7373	UNITS
$V_{CBO}$	Collector-Base Voltage	- 100	100	V
$V_{CEO}$	Collector-Emitter Voltage	- 80	80	V
$V_{EBO}$	Emitter-Base Voltage	- 5.5	5.5	V
$I_C$	Continuous Collector Current	5	5	A
$I_C$	Peak Collector Current	10	10	A
$I_B$	Continuous Base Current	2	2	A
$T_{STG}$	Storage Temperature	-65 to 200		°C
$T_J$	Operating Junction Temperature	-65 to 200		°C
	Lead Temperature 1/16" from cast for 10 sec.	300		°C
	Unclamped Inductive Load Energy	15		mj
$P_T$	Continuous Device			
	Dissipation $T_C = 25^\circ\text{C}$	58	58	W
	$T_C = 100^\circ\text{C}$	33	33	W
$\theta_{JC}$	Thermal Resistance Junction to Case	3	3	°C/W

**ELECTRICAL CHARACTERISTICS:**  
**(25° Case Temperature Unless Otherwise Noted)**

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE		Units
			Min.	Max.	
V <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 100 mA, I <sub>B</sub> = 0	80	---	V
I <sub>CEO</sub>	Collector Cutoff Current, Base Open	I <sub>B</sub> = 0, V <sub>CE</sub> = 40 V	---	50	μA
I <sub>CES</sub>	Collector Cutoff Current, Emitter-Base Short	V <sub>CE</sub> = 100 V	---	1	mA
		V <sub>CE</sub> = 60 V	---	1	μA
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>BE</sub> = 60 V, V <sub>BE</sub> = 2 V, T <sub>C</sub> = 150°C	---	500	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5.5 V, I <sub>C</sub> = 0	---	1	mA
		V <sub>EB</sub> = 4.0 V, I <sub>C</sub> = 0	---	1	μA
HFE	Static Forward Current Transfer Ratio	I <sub>C</sub> = 5.0 A, V <sub>CE</sub> = 5.0 V	40	---	---
		I <sub>C</sub> = 2.5 A, V <sub>CE</sub> = 5.0 V	70	200	---
		I <sub>C</sub> = 2.5 A, V <sub>CE</sub> = 5.0 V, T <sub>C</sub> = -55°C	25	---	---
		I <sub>C</sub> = 50 mA, V <sub>CE</sub> = 5.0 V	50	---	---
V <sub>BE</sub>	Base-Emitter Voltage	I <sub>C</sub> = 2.5 A, V <sub>CE</sub> = 5.0 V	---	1.45	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2.5 A, I <sub>B</sub> = 0.25 A	---	1.45	V
		I <sub>C</sub> = 5.0 A, I <sub>B</sub> = 0.5 A	---	2.2	V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5.0 A, I <sub>B</sub> = 0.5 A	---	1.5	V
		I <sub>C</sub> = 2.5 A, I <sub>B</sub> = 0.25 A	---	0.75	---
HFE	Small Signal Common-Emitter Forward Current Transfer Ratio	V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 100 mA, F = 1.0 KHz	50	---	---
h <sub>fe1</sub>	Small Signal Common Emitter Forward Current Transfer Ratio	V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 0.5A, F = 10 MHz	7.0	---	---
COBO	Open-Circuit Output Capacitance	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0A, F = 0.1 MHz	---	250	pF
t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 5.0 A, I <sub>B1</sub> = I <sub>B2</sub> = 0.5 A V <sub>BE (OFF)</sub> = 3.7V	---	0.5	μs
t <sub>off</sub>	Turn-off Time		---	1.5	μs

**PACKAGE MECHANICAL DATA:**



**JEDEC Hermetic Metal TO-254AA 3-Pin**