# NPN Power Silicon Transistor

NEW

## 2N5240

AEROFLEX
A passion for performance.

## Features

- High Voltage: Vceo(sus) = 300 V (min)
- Wide Area of Safe Operation
- Designed for use in series regulators, power amplifiers, inverters, deflection circuits, switching regulators, and high-voltage bridge amplifiers.
- TO-3 (TO-204AA) Package

## Maximum Ratings ($T_A$ = 25 °C)

| Ratings | Symbol | Value | Units |
|---|---|---|---|
| Collector - Base Voltage | $V_{CBO}$ | 375 | Vdc |
| Collector - Emitter Voltage ($R_{BE}$ < 50 Ω) | $V_{CER(sus)}$ | 350 | Vdc |
| Collector - Emitter Voltage | $V_{CE0(sus)}$ | 300 | Vdc |
| Emitter - Base Voltage | $V_{EBO}$ | 6.0 | Vdc |
| Collector Current - Continuous | $I_C$ | 5 | Adc |
| Base Current | $I_B$ | 2 | Adc |
| Collector Power Dissipation | $P_C$ | 100 | W |
| Junction Temperature | $T_J$ | +200 | °C |
| Storage Temperature Range | $T_{stg}$ | -65 to +200 | °C |

## Electrical Characteristics

$T_C$ = 25°C unless otherwise specified

| Symbol | Parameter | Conditions | Mimimum | Typical | Maximum | Units |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$ = 0.2 A; $I_B$ = 0 | 300 | -- | -- | V |
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$ = 0.2 A; $R_{BE} \leq$ 50 Ω | 350 | -- | -- | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E$ = 0.02 A; $I_C$ = 0 | 6 | -- | -- | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$ = 2 A; 18 = 0.25 A | -- | -- | 2.5 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$ = 4.5 A; $I_B$ = 1.125 A | -- | -- | 5.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$ = 2 A; $V_{CE}$ = 10 V | -- | -- | 3.0 | V |
| $I_{CEV}$ | Collector Cutoff Current | $V_{BE}$ = 375 V; $V_{BE}$ = -1.5 V<br>$V_{BE}$ = 300 V; $V_{BE}$ = -1.5V; $T_C$ = 150°C | --<br>-- | --<br>-- | 2<br>3 | mA |
| $I_{CEO}$ | Collector Cutoff Current | $V_{BE}$ = 200 V; $I_B$ = 0 | -- | -- | 2 | mA |
| $I_{ESO}$ | Emitter Cutoff Current | $V_{BE}$ = 6 V; $I_C$ = 0 | -- | -- | 5 | mA |
| $I_{S/B}$ | Forward Bias, Second Breakdown Collector Current | $t_p$=1 sec, $V_{CE}$ =100 Vdc | 0.8 | -- | -- | A |
| $h_{fe}$ | AC Forward Current Transfer Ratio | F = 1 KHz; $V_{CE}$ = 10 Vdc, $I_C$ = 0.4 A | 20 | -- | -- | |
| $h_{Fe-1}$ | DC Current Gain | $I_C$ = 0.4 A; $V_{CE}$ = 10 V | 20 | -- | 80 | |
| $h_{Fe-2}$ | DC Current Gain | $I_C$ = 2 A; $V_{CE}$ = 10 V | 20 | -- | 80 | |
| $h_{Fe-3}$ | DC Current Gain | $I_C$ = 4.5 A; $V_{CE}$ = 10 V | 5 | -- | -- | |
| $f_T$ | Current-Gain - Bandwidth Product | $I_C$ = 0.2 A; $V_{CE}$ = 10 V | 2 | -- | -- | MHz |
| $C_{OB}$ | Output Capacitance | $I_E$ = 0; $V_{CB}$ = 10 V; $f_{test}$ = 1.0 MHz | -- | -- | 250 | pF |

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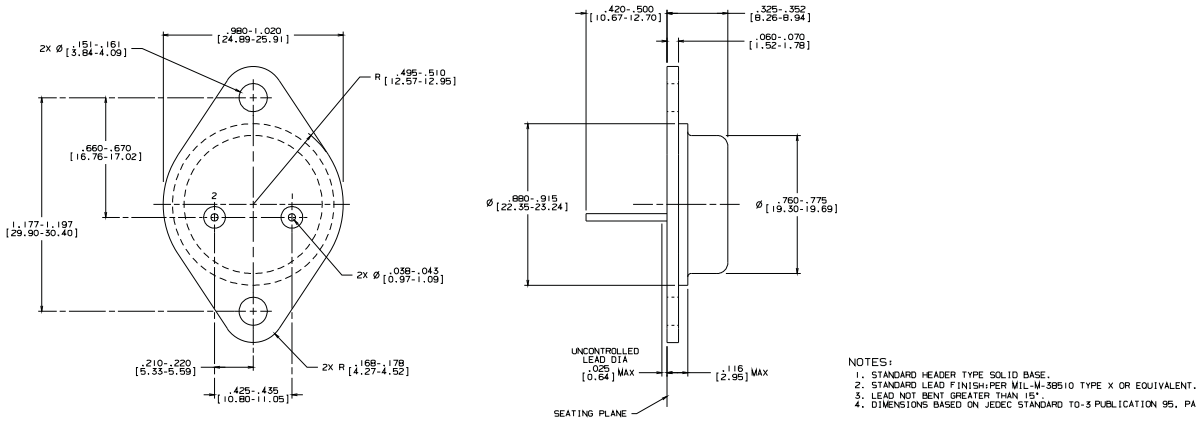
Revision Date: 12/5/2012
New Product

## Outline Drawing




NOTES:
1. STANDARD HEADER TYPE SOLID BASE.
2. STANDARD LEAD FINISH PER MIL-M-38510 TYPE X OR EQUIVALENT.
3. LEAD NOT BENT GREATER THAN 15°.
4. DIMENSIONS BASED ON JEDEC STANDARD TO-3 PUBLICATION 95, PA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A passion for performance.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.

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