

2N3740 2N3740A  
2N3741 2N3741A

**SILICON  
PNP POWER TRANSISTORS**



**TO-66 CASE**

**MAXIMUM RATINGS:** ( $T_C=25^\circ\text{C}$ )

Collector-Base Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Continuous Collector Current  
Peak Collector Current  
Continuous Base Current  
Power Dissipation  
Operating and Storage Junction Temperature

| SYMBOL         | 2N3740  | 2N3741      | UNITS            |
|----------------|---------|-------------|------------------|
|                | 2N3740A | 2N3741A     |                  |
| $V_{CBO}$      | 60      | 80          | V                |
| $V_{CEO}$      | 60      | 80          | V                |
| $V_{EBO}$      |         | 7.0         | V                |
| $I_C$          |         | 4.0         | A                |
| $I_{CM}$       |         | 10          | A                |
| $I_B$          |         | 2.0         | A                |
| $P_D$          |         | 25          | W                |
| $T_J, T_{stg}$ |         | -65 to +200 | $^\circ\text{C}$ |

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

| SYMBOL        | TEST CONDITIONS  | MIN | MAX | UNITS         |
|---------------|--|-----|-----|---------------|
| $I_{CEV}$     | $V_{CE}=\text{Rated } V_{CEO}, V_{BE}=1.5\text{V}$ (2N3740, 2N3741)      |     | 100 | $\mu\text{A}$ |
| $I_{CEV}$     | $V_{CE}=\text{Rated } V_{CEO}, V_{BE}=1.5\text{V}$ (2N3740A, 2N3741A)    |     | 100 | nA            |
| $I_{CEV}$     | $V_{CE}=40\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N3740)  |     | 1.0 | mA            |
| $I_{CEV}$     | $V_{CE}=40\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N3740A) |     | 0.5 | mA            |
| $I_{CEV}$     | $V_{CE}=60\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N3741)  |     | 1.0 | mA            |
| $I_{CEV}$     | $V_{CE}=60\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N3741A) |     | 0.5 | mA            |
| $I_{CBO}$     | $V_{CB}=\text{Rated } V_{CBO}$ (2N3740, 2N3741)                          |     | 100 | $\mu\text{A}$ |
| $I_{CBO}$     | $V_{CB}=\text{Rated } V_{CBO}$ (2N3740A, 2N3741A)                        |     | 100 | nA            |
| $I_{CEO}$     | $V_{CE}=40\text{V}$ (2N3740)   |     | 1.0 | mA            |
| $I_{CEO}$     | $V_{CE}=40\text{V}$ (2N3740A)  |     | 1.0 | $\mu\text{A}$ |
| $I_{CEO}$     | $V_{CE}=60\text{V}$ (2N3741)   |     | 1.0 | mA            |
| $I_{CEO}$     | $V_{CE}=60\text{V}$ (2N3741A)  |     | 1.0 | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=7.0\text{V}$ (2N3740, 2N3741)                                    |     | 0.5 | mA            |
| $I_{EBO}$     | $V_{EB}=7.0\text{V}$ (2N3740A, 2N3741A)                                  |     | 100 | nA            |
| $BV_{CEO}$    | $I_C=100\text{mA}$ (2N3740, 2N3740A)                                     | 60  |     | V             |
| $BV_{CEO}$    | $I_C=100\text{mA}$ (2N3741, 2N3741A)                                     | 80  |     | V             |
| $V_{CE(SAT)}$ | $I_C=1.0\text{A}, I_B=125\text{mA}$                                      |     | 0.6 | V             |
| $V_{BE(ON)}$  | $V_{CE}=1.0\text{V}, I_C=250\text{mA}$                                   |     | 1.0 | V             |
| $h_{FE}$      | $V_{CE}=1.0\text{V}, I_C=100\text{mA}$                                   | 40  |     |               |
| $h_{FE}$      | $V_{CE}=1.0\text{V}, I_C=250\text{mA}$                                   | 30  | 200 |               |
| $h_{FE}$      | $V_{CE}=1.0\text{V}, I_C=500\text{mA}$                                   | 20  |     |               |
| $h_{FE}$      | $V_{CE}=1.0\text{V}, I_C=1.0\text{A}$                                    | 10  |     |               |
| $h_{fe}$      | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=1.0\text{kHz}$                    | 25  |     |               |
| $f_T$         | $V_{CE}=10\text{V}, I_C=100\text{mA}, f=1.0\text{MHz}$                   | 4.0 |     | MHz           |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$                              |     | 100 | pF            |

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**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3740 series devices are silicon PNP power transistors manufactured by the epitaxial base process designed for power amplifier and medium speed switching applications.

**MARKING: FULL PART NUMBER**

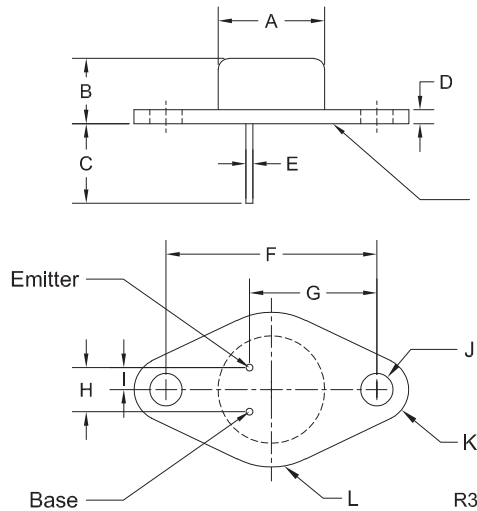
R2 (2-September 2014)

2N3740 2N3740A  
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TO-66 CASE - MECHANICAL OUTLINE



Seating Plane:  
 The seating plane must be  
 within 0.001" concave to  
 0.004" convex within  
 0.600" diameter from the  
 center of the device.

MARKING:  
 FULL PART NUMBER

| SYMBOL  | DIMENSIONS |       |             |       |
|---------|------------|-------|-------------|-------|
|         | INCHES     |       | MILLIMETERS |       |
|         | MIN        | MAX   | MIN         | MAX   |
| A (DIA) | 0.470      | 0.500 | 11.94       | 12.70 |
| B       | 0.250      | 0.340 | 6.35        | 8.64  |
| C       | 0.360      | -     | 9.14        | -     |
| D       | 0.050      | 0.075 | 1.27        | 1.91  |
| E (DIA) | 0.028      | 0.034 | 0.71        | 0.86  |
| F       | 0.956      | 0.964 | 24.28       | 24.48 |
| G       | 0.570      | 0.590 | 14.48       | 14.99 |
| H       | 0.190      | 0.210 | 4.83        | 5.33  |
| I       | 0.093      | 0.107 | 2.36        | 2.72  |
| J (DIA) | 0.142      | 0.152 | 3.61        | 3.86  |
| K (RAD) | 0.141      |       | 3.58        |       |
| L (RAD) | 0.345      |       | 8.76        |       |

TO-66 (REV:R3)

R2 (2-September 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### CONTACT US

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