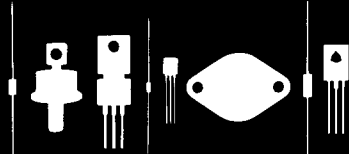


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145 Adams Avenue
Hauppauge, New York 11788



2N3740, A

2N3741, A

PNP SILICON POWER TRANSISTORS

JEDEC TO-66 CASE

DESCRIPTION

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

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

| | <u>SYMBOL</u> | <u>2N3740, A</u> | <u>2N3741, A</u> | <u>UNIT</u> |
|---|----------------|------------------|------------------|------------------|
| Collector-Base Voltage | V_{CB0} | 60 | 80 | V |
| Collector-Emitter Voltage | V_{CE0} | 60 | 80 | V |
| Emitter-Base Voltage | V_{EB0} | 7.0 | | V |
| Collector Current | I_C | 4.0 | | A |
| Collector Current-Peak | I_{CM} | 10 | | A |
| Base Current | I_B | 2.0 | | A |
| Power Dissipation | P_D | 25 | | W |
| Operating and Storage Junction Temperature | T_J, T_{STG} | -65 to +200 | | $^\circ\text{C}$ |

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

| <u>SYMBOL</u> | <u>TEST CONDITIONS</u> | <u>2N3740, A</u> | | <u>2N3741, A</u> | | <u>UNIT</u> |
|----------------------|--|------------------|------------|------------------|------------|---------------|
| | | <u>MIN</u> | <u>MAX</u> | <u>MIN</u> | <u>MAX</u> | |
| I_{CEV} | $V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V (2N3740,41)}$ | | 100 | 100 | | μA |
| I_{CEV} | $V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V (2N3740A,41A)}$ | | 100 | 100 | | nA |
| I_{CEV} | $V_{CE}=40\text{V}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C (2N3740)}$ | | 1.0 | - | | mA |
| I_{CEV} | $V_{CE}=40\text{V}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C (2N3740A)}$ | | 0.5 | - | | mA |
| I_{CEV} | $V_{CE}=60\text{V}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C (2N3741)}$ | | - | 1.0 | | mA |
| I_{CEV} | $V_{CE}=60\text{V}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C (2N3741A)}$ | | - | 0.5 | | mA |
| I_{CB0} | $V_{CB}=\text{Rated } V_{CB0} \text{ (2N3740, 2N3741)}$ | | 100 | 100 | | μA |
| I_{CB0} | $V_{CB}=\text{Rated } V_{CB0} \text{ (2N3740A, 2N3741A)}$ | | 100 | 100 | | nA |
| I_{CE0} | $V_{CE}=40\text{V (2N3740)}$ | | 1.0 | - | | mA |
| I_{CE0} | $V_{CE}=40\text{V (2N3740A)}$ | | 1.0 | - | | μA |
| I_{CE0} | $V_{CE}=60\text{V (2N3741)}$ | | - | 1.0 | | mA |
| I_{CE0} | $V_{CE}=60\text{V (2N3741A)}$ | | - | 1.0 | | μA |
| I_{EB0} | $V_{EB}=7.0\text{V (2N3740, 2N3741)}$ | | 0.5 | 0.5 | | mA |
| I_{EB0} | $V_{EB}=7.0\text{V (2N3740A, 2N3741A)}$ | | 100 | 100 | | nA |
| BV_{CE0} | $I_C=100\text{mA}$ | 60 | | 80 | | V |
| $V_{CE}(\text{SAT})$ | $I_C=1.0\text{A}, I_B=125\text{mA}$ | | 0.6 | 0.6 | | V |
| $V_{BE}(\text{ON})$ | $V_{CE}=1.0\text{V}, I_C=250\text{mA}$ | | 1.0 | 1.0 | | V |
| hFE | $V_{CE}=1.0\text{V}, I_C=100\text{mA}$ | 40 | - | 40 | - | |
| hFE | $V_{CE}=1.0\text{V}, I_C=250\text{mA}$ | 30 | 150 | 30 | 150 | |
| hFE | $V_{CE}=1.0\text{V}, I_C=500\text{mA}$ | 20 | - | 20 | - | |
| hFE | $V_{CE}=1.0\text{V}, I_C=1.0\text{A}$ | 10 | - | 10 | - | |
| hfe | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=1.0\text{kHz}$ | 25 | - | 25 | - | |
| f_T | $V_{CE}=10\text{V}, I_C=100\text{mA}, f=1.0\text{MHz}$ | 4.0 | | 4.0 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_C=0, f=100\text{kHz}$ | | 100 | 100 | | pF |