

**Silicon NPN Power Transistor**

**2SC5359**

**DESCRIPTION**

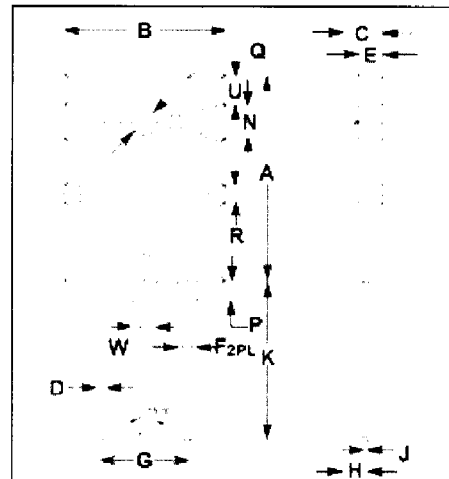
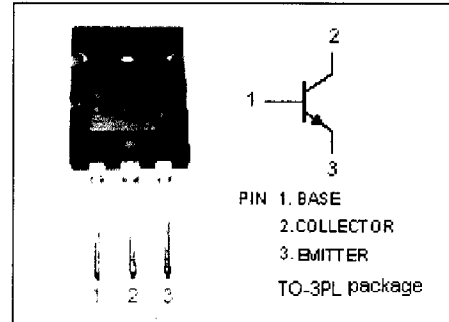
- High Current Capability
- High Power Dissipation
- High Collector-Emitter Breakdown Voltage-  
 :  $V_{(BR)CEO} = 230V(\text{Min})$
- Complement to Type 2SA1987

**APPLICATIONS**

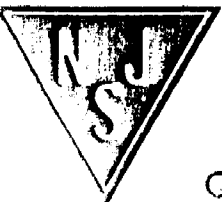
- Power amplifier applications
- Recommend for 100W high fidelity audio frequency amplifier output stage applications

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

| SYMBOL    | PARAMETER                                               | VALUE   | UNIT             |
|-----------|---------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 230     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 230     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 5       | V                |
| $I_C$     | Collector Current-Continuous                            | 15      | A                |
| $I_B$     | Base Current-Continuous                                 | 1.5     | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_c=25^\circ\text{C}$ | 180     | W                |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -55~150 | $^\circ\text{C}$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 25.50 | 26.50 |
| B   | 19.80 | 20.20 |
| C   | 4.50  | 5.50  |
| D   | 0.90  | 1.10  |
| E   | 2.80  | 3.20  |
| F   | 2.40  | 2.60  |
| G   | 10.80 | 11.00 |
| H   | 3.10  | 3.30  |
| J   | 0.50  | 0.70  |
| K   | 20.00 | 21.00 |
| N   | 3.90  | 4.10  |
| P   | 2.40  | 2.60  |
| Q   | 3.10  | 3.50  |
| R   | 1.90  | 2.10  |
| U   | 3.90  | 4.10  |
| W   | 2.90  | 3.10  |



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

# Silicon NPN Power Transistor

# 2SC5359

## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                                         | MIN | TYP. | MAX | UNIT          |
|---------------|--------------------------------------|----------------------------------------------------|-----|------|-----|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C=50\text{mA}; I_B=0$                           | 230 |      |     | V             |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=8.0\text{A}; I_B=0.8\text{A}$                 |     |      | 3.0 | V             |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $I_C=7\text{A}; V_{CE}=5\text{V}$                  |     |      | 1.5 | V             |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}=230\text{V}; I_E=0$                        |     |      | 5   | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}=5\text{V}; I_C=0$                          |     |      | 5   | $\mu\text{A}$ |
| $h_{FE-1}$    | DC Current Gain                      | $I_C=1\text{A}; V_{CE}=5\text{V}$                  | 55  |      | 160 |               |
| $h_{FE-2}$    | DC Current Gain                      | $I_C=7\text{A}; V_{CE}=5\text{V}$                  | 35  |      |     |               |
| $C_{OB}$      | Output Capacitance                   | $I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$ |     | 200  |     | pF            |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C=1\text{A}; V_{CE}=5\text{V}$                  |     | 30   |     | MHz           |

### ◆ $h_{FE-1}$ Classifications

|        |        |
|--------|--------|
| R      | O      |
| 55-110 | 80-160 |