

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N2646

2N2647

SILICON UNIJUNCTION TRANSISTOR

JEDEC TO-18 CASE\*

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2646, 2N2647 types are silicon PN unijunction transistors designed for general purpose industrial applications.

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

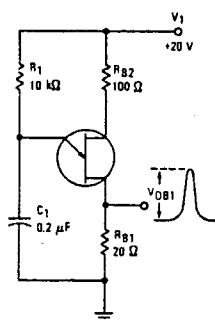
|                                            | SYMBOL         |             | UNIT             |
|--------------------------------------------|----------------|-------------|------------------|
| RMS Power Dissipation                      | $P_D$ (RMS)    | 300         | mW               |
| RMS Emitter Current                        | $I_E$ (RMS)    | 50          | mA               |
| Peak Pulse Emitter Current                 | $i_E$          | 2.0         | A                |
| Interbase Voltage                          | $V_{B2B1}$     | 35          | V                |
| Emitter Reverse Voltage                    | $V_{B2E}$      | 30          | V                |
| Operating and Storage Junction Temperature | $T_J, T_{STG}$ | -65 TO +150 | $^\circ\text{C}$ |

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

| SYMBOL                | TEST CONDITIONS                                                       | 2N2646 |      | 2N2647 |      | UNIT                |
|-----------------------|-----------------------------------------------------------------------|--------|------|--------|------|---------------------|
|                       |                                                                       | MIN    | MAX  | MIN    | MAX  |                     |
| $\eta$                | $V_{B2B1}=10\text{V}^\dagger$                                         | 0.56   | 0.75 | 0.68   | 0.82 | -                   |
| $R_{BB0}$             | $V_{B2B1}=3.0\text{V}, I_E=0$                                         | 4.7    | 9.1  | 4.7    | 9.1  | $k\Omega$           |
| $I_{B2}(\text{MOD})$  | $V_{B2B1}=10\text{V}, I_E=50\text{mA}$                                | 15     | TYP  | 15     | TYP  | mA                  |
| $\alpha_{RBB0}$       | $V_{B2B1}=3.0\text{V}, T_A=-65^\circ\text{C}$ to $+150^\circ\text{C}$ | 0.1    | 0.9  | 0.1    | 0.9  | $\%/^\circ\text{C}$ |
| $V_{EB1}(\text{SAT})$ | $V_{B2B1}=10\text{V}, I_E=50\text{mA}$                                | 3.5    | TYP  | 3.5    | TYP  | V                   |
| $I_{E0}$              | $V_{B2E}=30\text{V}, I_{B1}=0$                                        |        | 12   |        | 0.2  | $\mu\text{A}$       |
| $I_P$                 | $V_{B2B1}=25\text{V}$                                                 |        | 5.0  |        | 2.0  | $\mu\text{A}$       |
| $I_V$                 | $V_{B2B1}=20\text{V}, R_{B2}=100\Omega$                               | 4.0    | -    | 8.0    | 18   | mA                  |
| $V_{OB1}$             | See test circuit below                                                | 3.0    |      | 6.0    |      | V                   |

\*Conforms to JEDEC TO-18 outline except for lead configuration.

$V_{OB1}$  TEST CIRCUIT



$\dagger\eta$  TEST CIRCUIT

