

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N6027
2N6028

SILICON PROGRAMMABLE
UNIUNCTION TRANSISTOR

JEDEC TO-92 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6027, 2N6028 types are Silicon Programmable Unijunction Transistors, manufactured in an epoxy molded package, designed for adjustable (programmable) characteristics such as, Valley Current (I_V), Peak Current (I_P), and Intrinsic Standoff Ratio (η).

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

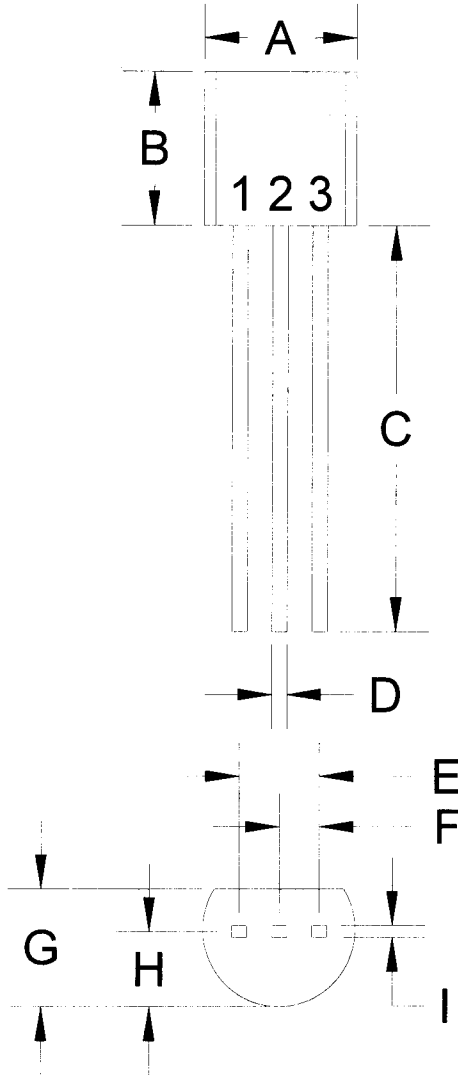
| | SYMBOL | | UNITS |
|---|-----------|-------------|------------------|
| Gate-Cathode Forward Voltage | V_{GKF} | 40 | V |
| Gate-Cathode Reverse Voltage | V_{GKR} | 5.0 | V |
| Gate-Anode Reverse Voltage | V_{GAR} | 40 | V |
| Anode-Cathode Voltage | V_{AK} | 40 | V |
| Peak Non-Repetitive Forward Current ($t=10\mu\text{s}$) | I_{TSM} | 5.0 | A |
| Peak Repetitive Forward Current ($t=20\mu\text{s}$, D.C.=1.0%) | I_{TRM} | 2.0 | A |
| Peak Repetitive Forward Current ($t=100\mu\text{s}$, D.C.=1.0%) | I_{TRM} | 1.0 | A |
| DC Forward Anode Current | I_T | 150 | mA |
| DC Gate Current | I_G | 50 | mA |
| Power Dissipation | P_D | 300 | mW |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |
| Operating Junction Temperature | T_J | -50 to +100 | $^\circ\text{C}$ |

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

| SYMBOL | TEST CONDITIONS | 2N6027 | | 2N6028 | | UNITS |
|-----------|--|--------|-----|--------|------|---------------|
| | | MIN | MAX | MIN | MAX | |
| I_{GAO} | $V_S=40\text{V}$ | | 10 | | 10 | nA |
| I_{GKS} | $V_S=40\text{V}$ | | 50 | | 50 | nA |
| I_P | $V_S=10\text{V}$, $R_G=1.0\text{M}\Omega$ | | 2.0 | | 0.15 | μA |
| I_P | $V_S=10\text{V}$, $R_G=10\text{k}\Omega$ | | 5.0 | | 1.0 | μA |
| I_V | $V_S=10\text{V}$, $R_G=1.0\text{M}\Omega$ | | 50 | | 25 | μA |
| I_V | $V_S=10\text{V}$, $R_G=10\text{k}\Omega$ | 70 | | 25 | | μA |
| I_V | $V_S=10\text{V}$, $R_G=200\Omega$ | 1.5 | | 1.0 | | mA |
| V_T | $V_S=10\text{V}$, $R_G=1.0\text{M}\Omega$ | 0.2 | 1.6 | 0.2 | 0.6 | V |
| V_T | $V_S=10\text{V}$, $R_G=10\text{k}\Omega$ | 0.2 | 0.6 | 0.2 | 0.6 | V |
| V_F | $I_F=50\text{mA}$ | | 1.5 | | 1.5 | V |
| V_O | $V_B=20\text{V}$, $C_C=0.2\mu\text{F}$ | 6.0 | | 6.0 | | V |
| t_r | $V_B=20\text{V}$, $C_C=0.2\mu\text{F}$ | | 80 | | 80 | ns |

(SEE REVERSE SIDE)

JEDEC TO-92 CASE - MECHANICAL OUTLINE



| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A (DIA) | 0.175 | 0.205 | 4.45 | 5.21 |
| B | 0.170 | 0.210 | 4.32 | 5.33 |
| C | 0.500 | - | 12.70 | - |
| D | 0.016 | 0.022 | 0.41 | 0.56 |
| E | 0.100 | | 2.54 | |
| F | 0.050 | | 1.27 | |
| G | 0.125 | 0.165 | 3.18 | 4.19 |
| H | 0.080 | 0.105 | 2.03 | 2.67 |
| I | 0.015 | | 0.38 | |

TO-92 (REV: R1)

R1

Lead Code:

1. Anode
2. Gate
3. Cathode