DEC

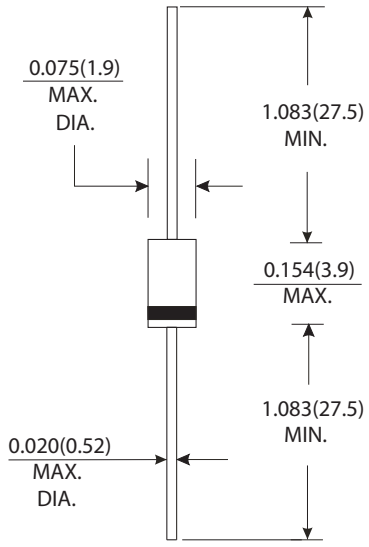
# 1N60, 1N60P

GERMANIUM DIODES

## Features

· Metal silicon junction, majority carrier conduction
· High current capability, Low forward voltage drop
· Extremely low reverse current $I_R$
· Ultra speed switching characteristics
· Small temperature coefficient of forward characteristics
· Satisfactory Wave detection efficiency
· For use in RECORDER, TV, RADIO, TELEPHONE as detectors, super high speed switching circuits, small current rectifier

DO-35(GLASS)




Dimensions in inches and (millimeters)

## Mechanical Data

· Case : DO-35 glass case
· Polarity : Color band denotes cathode end
· Weight : Approx. 0.13 gram

## Absolute Ratings (Limiting Values)

| Symbols | Parameters | | Value | | Units |
|---|---|---|---|---|---|
| | | | 1N60 | 1N60P | |
| $V_{RRM}$ | Zenerepetitive Peak Reverse Voltage | | 40 | 45 | Volts |
| $I_F$ | Forward Continuous Crrent | $T_A$=25℃ | 30 | 50 | mA |
| $I_{FSM}$ | Peak Forward Surge Current(t=1S) | | 150 | 500 | mA |
| $T_{STG}/T_J$ | Storage junction Temperature Range | | -65 to+125 | | ℃ |
| $T_L$ | Maximum Lead Temperature for soldering 10S at 4mm from Case | | 230 | | ℃ |

## Electrical characteristics

| Symbols | Parameters | Test Conditions | | Value | | | Units |
|---|---|---|---|---|---|---|---|
| | | | | Min | Typ. | Max. | |
| $V_F$ | Forward Voltage | $I_F$=1mA | 1N60 | | 0.32 | 0.5 | Volts |
| | | | 1N60P | | 0.24 | 0.5 | |
| | | $I_F$=30mA | 1N60 | | 0.65 | 1.0 | |
| | | $I_F$=200mA | 1N60P | | 0.65 | 1.0 | |
| $I_R$ | Reverse Current | $V_R$=15V | 1N60 | | 0.1 | 0.5 | μA |
| | | | 1N60P | | 0.5 | 1.0 | |
| $C_J$ | Junction Capacitance | $V_R$=1V f=1MHz | 1N60 | | 2.0 | | pF |
| | | $V_R$=10V f=1MHz | 1N60P | | 6.0 | | |
| $\eta$ | Detection Effcienc(See diagram 4) | $V_I$=3V f=30MHz $C_L$=10pF $R_L$=3.8kΩ | | | 60 | | % |
| trr | Revese Recovery time | $I_F$=$I_R$=1mA Irr=1mA $R_C$=100Ω | | | | 1 | ns |
| $R_{\Theta JA}$ | Junction Amblent Thermal Resistance | | | | 400 | | ℃/W |

# RATINGS AND CHARACTERISTIC CURVES 1N60P

FIG.1-FORWARD CURRENT VERSUS FORWARD VALTAGE(TYPICAL VALUES)

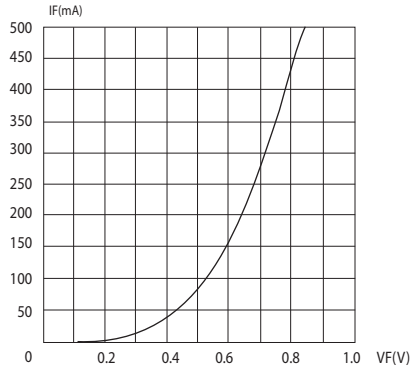



FIG.2-REVERSE CURRENT VERSUS CONTINUOUS REVERSE VOLTAGE

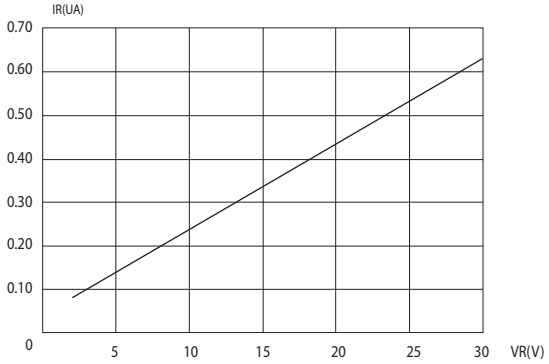



FIG.3-JUNCTION CAPACITANCE VERSUS CONTINUOUS REVERSE APPLIED VOLTAGE

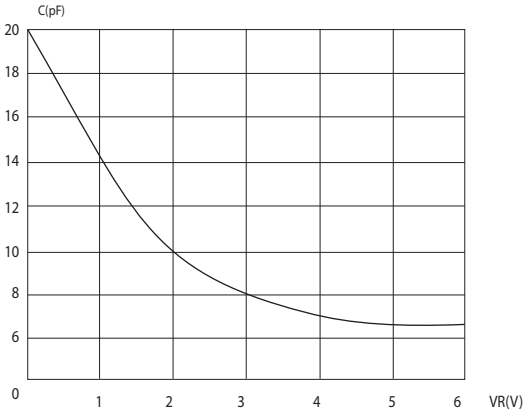



FIG.4-DETECTION EFFICIENCY MEASUREMENT CIRCUIT