

2N6027, 2N6028

Preferred Device

Programmable Unijunction Transistor

Programmable Unijunction Transistor Triggers

Designed to enable the engineer to “program” unijunction characteristics such as R_{BB} , η , I_V , and I_P by merely selecting two resistor values. Application includes thyristor-trigger, oscillator, pulse and timing circuits. These devices may also be used in special thyristor applications due to the availability of an anode gate. Supplied in an inexpensive TO-92 plastic package for high-volume requirements, this package is readily adaptable for use in automatic insertion equipment.

- Programmable — R_{BB} , η , I_V and I_P
- Low On-State Voltage — 1.5 Volts Maximum @ $I_F = 50$ mA
- Low Gate to Anode Leakage Current — 10 nA Maximum
- High Peak Output Voltage — 11 Volts Typical
- Low Offset Voltage — 0.35 Volt Typical ($R_G = 10$ k ohms)
- Device Marking: Logo, Device Type, e.g., 2N6027, Date Code

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

Rating	Symbol	Value	Unit
*Power Dissipation Derate Above 25°C	P_F $1/\theta_{JA}$	300 4.0	mW mW/ $^\circ\text{C}$
*DC Forward Anode Current Derate Above 25°C	I_T	150 2.67	mA mA/ $^\circ\text{C}$
*DC Gate Current	I_G	± 50	mA
Repetitive Peak Forward Current 100 μs Pulse Width, 1% Duty Cycle *20 μs Pulse Width, 1% Duty Cycle	I_{TRM}	1.0 2.0	Amps
Non-Repetitive Peak Forward Current 10 μs Pulse Width	I_{TSM}	5.0	Amps
*Gate to Cathode Forward Voltage	V_{GKF}	40	Volts
*Gate to Cathode Reverse Voltage	V_{GKR}	-5.0	Volts
*Gate to Anode Reverse Voltage	V_{GAR}	40	Volts
*Anode to Cathode Voltage ⁽¹⁾	V_{AK}	± 40	Volts
Operating Junction Temperature Range	T_J	-50 to +100	$^\circ\text{C}$
*Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

*Indicates JEDEC Registered Data

(1) Anode positive, $R_{GA} = 1000$ ohms
Anode negative, $R_{GA} = \text{open}$



ON Semiconductor

<http://onsemi.com>

PUTs
40 VOLTS
300 mW



TO-92 (TO-226AA)
CASE 029
STYLE 16

PIN ASSIGNMENT

1	Anode
2	Gate
3	Cathode

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 7 of this data sheet.

Preferred devices are recommended choices for future use and best overall value.