

2N6027  
2N6028

**SILICON  
PROGRAMMABLE  
UNI-JUNCTION TRANSISTORS**



**TO-92 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N6027 and 2N6028 devices 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 ( $\eta$ ).

**MARKING: FULL PART NUMBER**

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

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
Operating Junction Temperature	$T_J$	-50 to +100	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

SYMBOL		UNITS
$V_{GKF}$	40	V
$V_{GKR}$	5.0	V
$V_{GAR}$	40	V
$V_{AK}$	40	V
$I_{TSM}$	5.0	A
$I_{TRM}$	2.0	A
$I_{TRM}$	1.0	A
$I_T$	150	mA
$I_G$	50	mA
$P_D$	300	mW
$T_J$	-50 to +100	$^\circ\text{C}$
$T_{stg}$	-55 to +150	$^\circ\text{C}$

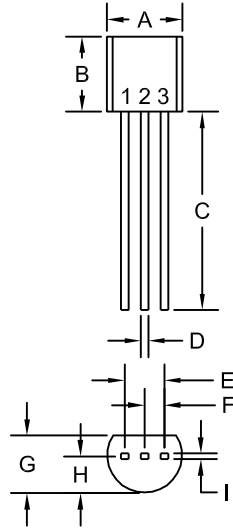
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

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	$\mu\text{A}$
$I_P$	$V_S=10\text{V}$ , $R_G=10\text{k}\Omega$	-	5.0	-	1.0	$\mu\text{A}$
$I_V$	$V_S=10\text{V}$ , $R_G=1.0\text{M}\Omega$	-	50	-	25	$\mu\text{A}$
$I_V$	$V_S=10\text{V}$ , $R_G=10\text{k}\Omega$	70	-	25	-	$\mu\text{A}$
$I_V$	$V_S=10\text{V}$ , $R_G=200\Omega$	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

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**TO-92 CASE - MECHANICAL OUTLINE**



R1

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)

**LEAD CODE:**

- 1) Anode
- 2) Gate
- 3) Cathode

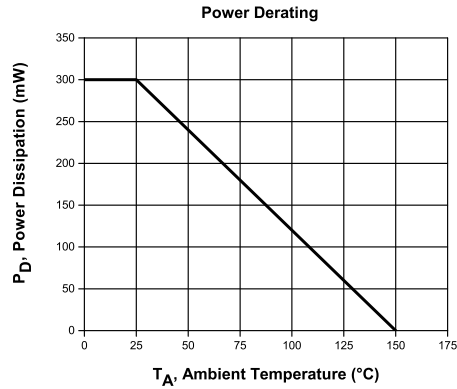
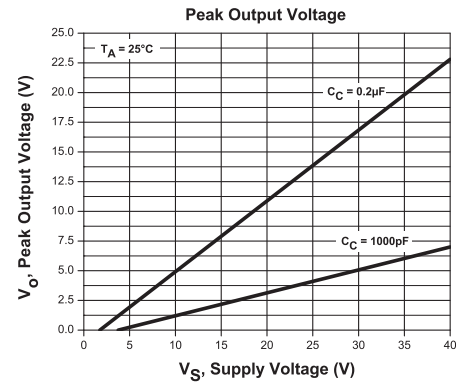
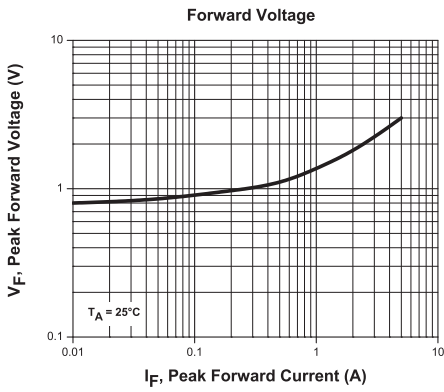
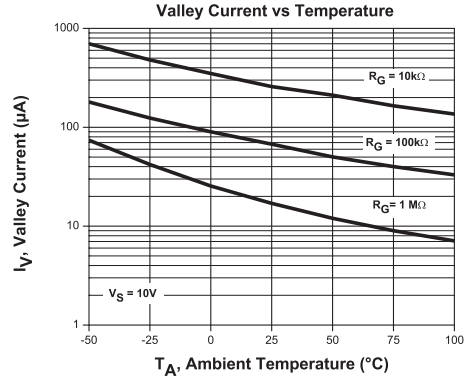
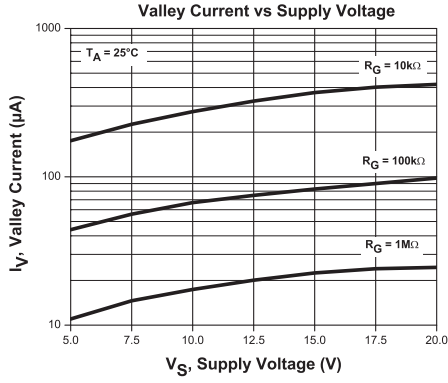
**MARKING:**  
**FULL PART NUMBER**

R2 (4-February 2014)

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**TYPICAL ELECTRICAL CHARACTERISTICS**



R2 (4-February 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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