

2N6027
2N6028

**SILICON
PROGRAMMABLE
UNIUNCTION TRANSISTORS**



TO-92 CASE



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 (η).

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	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

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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

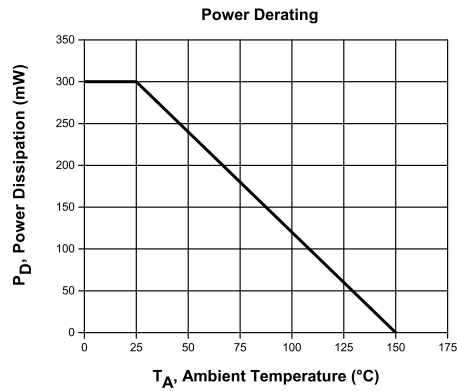
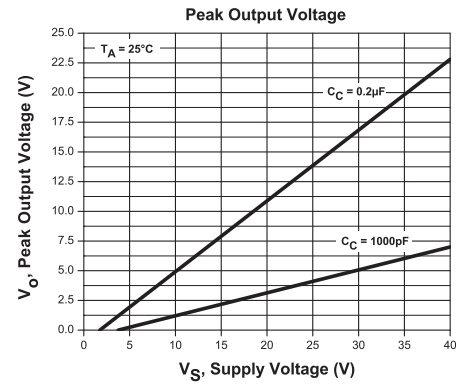
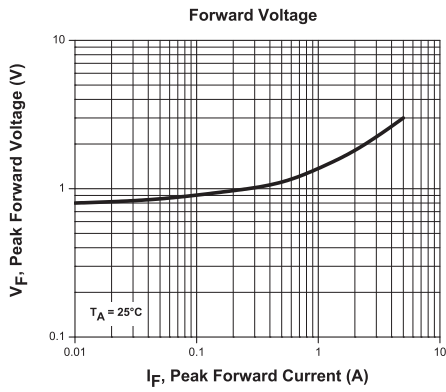
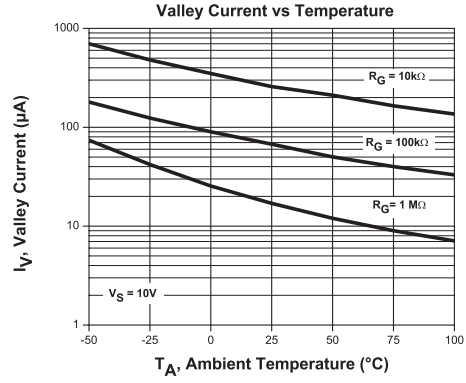
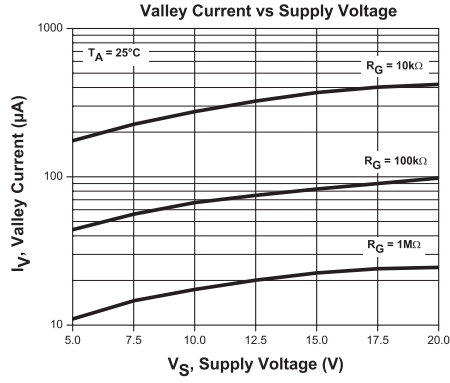
R2 (4-February 2014)

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TYPICAL ELECTRICAL CHARACTERISTICS



R2 (4-February 2014)



OUTSTANDING SUPPORT AND SUPERIOR SERVICES

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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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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