

CMPP6027
CMPP6028

**SURFACE MOUNT SILICON
PROGRAMMABLE UNIJUNCTION
TRANSISTORS**



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPP6027 and CMPP6028 are silicon programmable unijunction transistors, manufactured in a surface mount SOT-23 package, designed for adjustable (programmable) characteristics such as, valley current (I_V), peak current (I_P), and intrinsic standoff ratio (η).

**MARKING CODES: CMPP6027: P27
CMPP6028: P28**

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 (Note 1)	P_D	167	mW
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	T_J	-50 to +100	$^\circ\text{C}$
Thermal Resistance (Note 1)	Θ_{JA}	450	$^\circ\text{C}/\text{W}$

Note 1: Mounted on 2 inch square FR-4 PCB with minimum copper pad area.

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

SYMBOL	TEST CONDITIONS	CMPP6027		CMPP6028		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

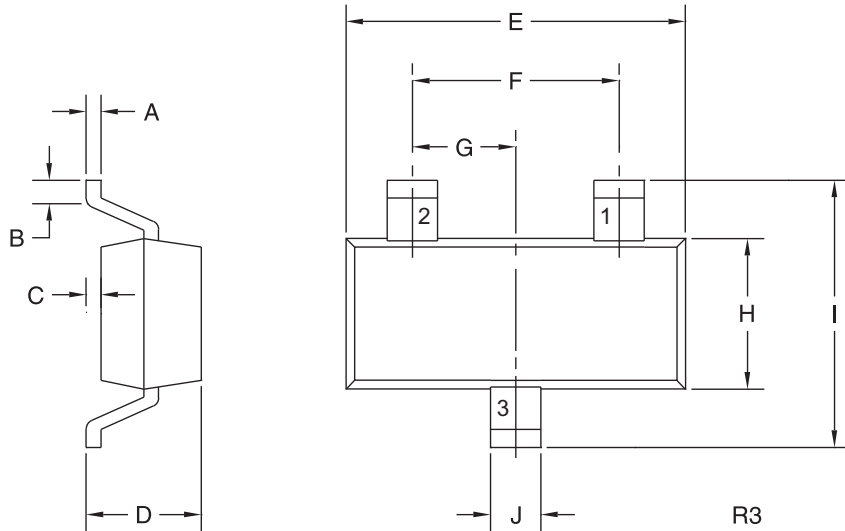
R4 (24-June 2015)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

CMPP6027: P27
CMPP6028: P28

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R4 (24-June 2015)

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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