

CMPP6027R  
CMPP6028R

**SURFACE MOUNT SILICON  
PROGRAMMABLE UNIJUNCTION  
TRANSISTORS**



**SOT-23 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPP6027R and CMPP6028R 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 ( $\eta$ ).

**MARKING CODES: CMPP6027R: P27  
CMPP6028R: 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)	$\Theta_{JA}$	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	CMPP6027R		CMPP6028R		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

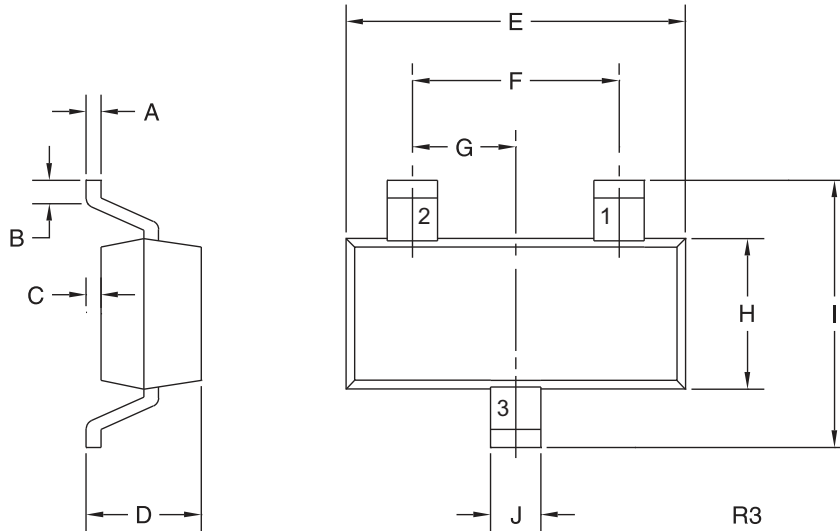
R0 (24-June 2015)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

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CMPP6028R: 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)

R0 (24-June 2015)

## 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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<http://www.centrasemi.com>

# Product End of Life Notification

<b>PDN ID:</b>	PDN01109
<b>Notification Date:</b>	1/18/19
<b>Last Buy Date:</b>	7/18/19
<b>Last Shipment Date</b>	1/18/20

Summary: The CMPP6027R and CMPP6028R Programmable UJTs are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

<u>Central Part Number</u>	<u>Replacement</u>
CMPP6027R BK	N/A, Stock Only
CMPP6027R TR	N/A, Stock Only
CMPP6028R BK	N/A, Stock Only
CMPP6028R TR	N/A, Stock Only

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).

**DISCLAIMER:** This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.