

CMPP6027  
CMPP6028

**SURFACE MOUNT SILICON  
PROGRAMMABLE UNIJUNCTION  
TRANSISTOR**



**SOT-23 CASE**



[www.centrasemi.com](http://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 ( $\eta$ ).

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

**NOTE: Reverse Lead Codes Available, Add "R" to the end of the Part #.**

**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	$P_D$	350	mW
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	$T_J$	-50 to +100	$^\circ\text{C}$

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

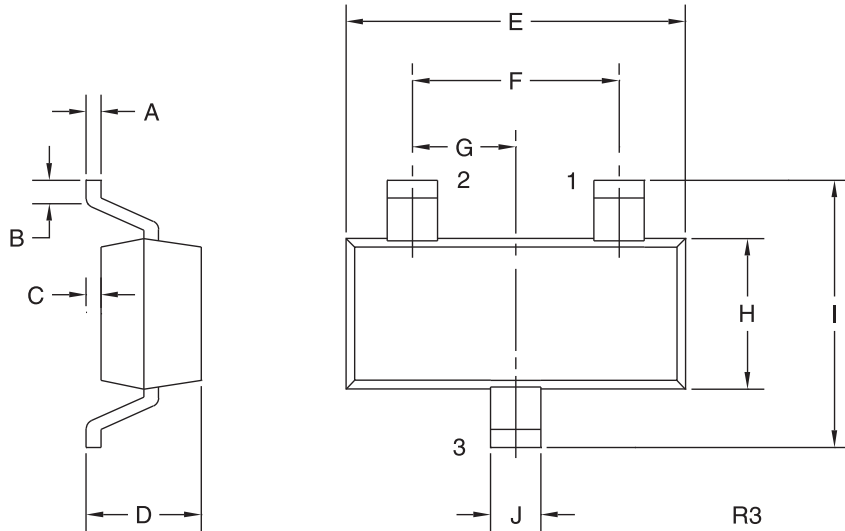
SYMBOL	TEST CONDITIONS	CMPP6027		CMPP6028		UNITS
		MIN	MAX	MIN	MAX	
$I_{GAO}$	$V_S=40\text{V}$		10		10	nA
$I_{GKS}$	$V_S=40\text{V}$		50		50	nA
$I_P$	$V_S=10\text{V}$ , $R_G=1.0\text{M}\Omega$		2.0		0.15	$\mu\text{A}$
$I_P$	$V_S=10\text{V}$ , $R_G=10\text{k}\Omega$		5.0		1.0	$\mu\text{A}$
$I_V$	$V_S=10\text{V}$ , $R_G=1.0\text{M}\Omega$		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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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**  
**STANDARD**      **\*REVERSE**  
 1) Cathode      1) Anode  
 2) Anode        2) Cathode  
 3) Gate         3) Gate

**MARKING CODES:**  
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**CMPP6028: P28**

\* Reverse Lead Code Available,  
 Add "R" to the end of the Part #.

SYMBOL	DIMENSIONS			
	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)

R2 (27-January 2010)