CPC5602C

N Channel Depletion Mode FET

Features

- Low on resistance 10 ohms
- High input impedance
- Low input and output leakage
- Small package size SOT-223
- PC Card (PCMCIA) Compatible
- PCB Space and Cost Savings

Applications

- Support Component for LITELINK ™ Data Access Arrangement (DAA)
- Normally-on switch
- Telecom
- Constant Current Source

Description

The CPC5602C is an “N” channel depletion mode Field Effect Transistor (FET) that utilizes Clare’s proprietary third generation vertical DMOS process. The third generation process realizes world class, high voltage MOSFET performance in an economical silicon gate process. The vertical DMOS process yields a highly reliable device particularly in difficult application environments such as telecommunications.

One of the primary applications for the CPC5602C is as a linear regulator/ hook switch for the LITELINK™ Data Access Arrangements (DAA) Devices (CPC5610A, CPC5611A, CPC5604A).

The CPC5602C has a typical on-resistance of 8Ω, a breakdown voltage exceeding 350V and is available in an SOT-223 package. As with all MOS devices, the FET structure prevents thermal runaway and thermal-induced secondary breakdown.

Absolute Maximum Ratings

Parameter	Min	Max	Units
V_{DSS} Voltage	—	350	V
Total Package Dissipation	—	2.5	W
Operational Temperature	-40	+85	^{0}C
Storage Temperature	-40	+125	^{0}C
Soldering Temperature	—	+220	^{0}C

Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this data sheet is not implied. Exposure of the device to the absolute maximum ratings for an extended period may degrade the device and effect its reliability.

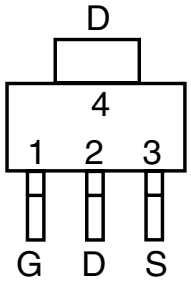
Ordering Information

Part #	Description
CPC5602C	N-Channel Depletion Mode FET, SOT-223 Package
CPC5602CTR	N-Channel Depletion Mode, SOT-223 Package FET-TAPE and Reel (1000 units min)

Electrical characteristics (@0 to 85°C unless otherwise specified)

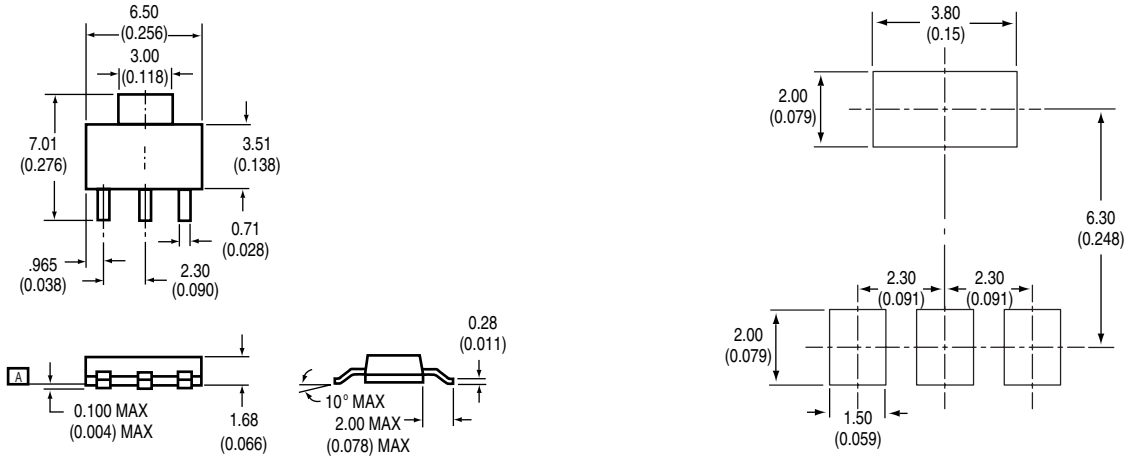
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNITS	CONDITIONS
Breakdown Voltage	$V_{(BR)DSS}$	350	-	--	V	V_{GS}=-5v, I_D<100µA
Gate-to-Source Off Voltage	V_{GS1}	-3.6		-2	V	I_D=2uA, 10V<V_{DS}<100V
Drain Current 1	I_{D1}	-	-	5	mA	V_{GS}=-2.7V, 5V<V_{DS}<50V
Drain Current 2	I_{D2}	130	-	-	mA	V_{GS}=-0.57V, 5V<V_{DS}<50V
Continuous Drain Current 1	I_{DC1}	125	-	-	mA	V_{DS}=7V
Continuous Drain Current 2	I_{DC2}	60	-	-	mA	V_{DS}=40V
On Resistance	R_{DS}	-	8	10	Ω	V_{GS}=-0.35V,0 .1V<V_{DS}<0.2V
Gate Leakage Current	I_{GSS}	-	-	.1	µA	-10V<V_{GS}<10V
Gate Capacitance	C_{ISS}	-	-	300	pF	V_{DS}= V_{GS}=0V
Thermal Resistance	O_{JC}	-	-	14	°C/W	

Package Pinout



Pin #	Name
1	GATE
2	DRAIN
3	SOURCE
4	DRAIN

Mechanical Dimensions



Coplaner to A 0.08/(0.003) 4 PL.

Note: Values are typical except where noted.

Dimensions
mm
(inches)

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