



## UDF030N150

Preliminary

Power MOSFET

### 0.3A, 1500V N-CHANNEL DEPLETION-MODE POWER MOSFET

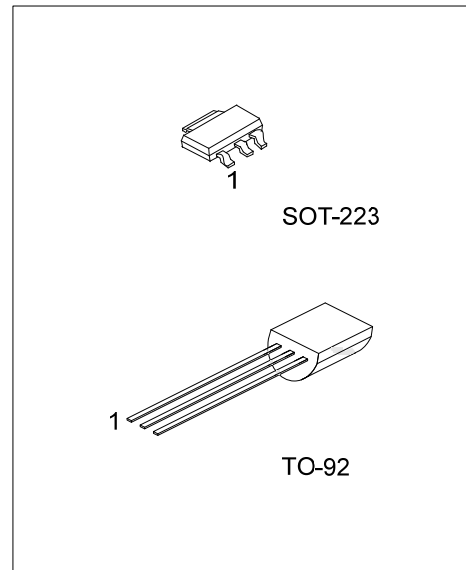
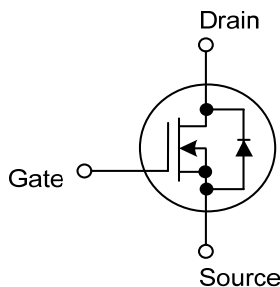
#### DESCRIPTION

The UTC **UDF030N150** is an N-channel power MOSFET using UTC's advanced technology to provide the customers with high switching speed.

#### FEATURES

- \*  $R_{DS(ON)} \leq 200 \Omega$  @  $V_{GS}=0V, I_D=3.0mA$
- \* High Switching Speed

#### SYMBOL



#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UDF030N150L-AA3-R	UDF030N150G-AA3-R	SOT-223	G	D	S	Tape Reel
UDF030N150L-T92-B	UDF030N150G-T92-B	TO-92	G	D	S	Tape Box
UDF030N150L-T92-K	UDF030N150G-T92-K	TO-92	G	D	S	Bulk

Note: Pin Assignment: G: Gate D: Drain S: Source

<p>UDF030N150G-AA3-R</p>	<p>(1) R: Tape Reel, B: Tape Box, K: Bulk</p> <p>(2) AA3: SOT-223, T92: TO-92</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
--------------------------	--

#### MARKING

SOT-223	TO-92

■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage (Note 2)		$V_{DSS}$	1500	V
Drain-Gate Voltage (Note 2)		$V_{DGX}$	1500	V
Gate-Source Voltage		$V_{GSS}$	$\pm 20$	V
Drain Current	Continuous	$I_D$	0.3	A
	Pulsed	$I_{DM}$	0.6	A
Power Dissipation	SOT-223	$P_D$	0.8	W
	TO-92		0.625	W
Junction Temperature		$T_J$	+150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2.  $T_J=+25^\circ\text{C}\sim+150^\circ\text{C}$

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-223	$\theta_{JA}$	150	$^\circ\text{C/W}$
	TO-92		200	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>OFF CHARACTERISTICS</b>							
Drain-Source Breakdown Voltage		$BV_{DSS}$	$I_D=250\mu\text{A}$ , $V_{GS}=-5\text{V}$	1500			V
Drain-Source Leakage Current		$I_{D(OFF)}$	$V_{DS}=1500\text{V}$ , $V_{GS}=-5\text{V}$			0.1	$\mu\text{A}$
Gate-Source Leakage Current	Forward	$I_{GSS}$	$V_{GS}=+20\text{V}$ , $V_{DS}=0\text{V}$			+100	nA
	Reverse		$V_{GS}=-20\text{V}$ , $V_{DS}=0\text{V}$			-100	nA
<b>ON CHARACTERISTICS</b>							
Gate to Source Cut Off Voltage		$V_{GS(OFF)}$	$V_{DS}=3\text{V}$ , $I_D=8\mu\text{A}$	-2.0		-4.5	V
Drain-Source Leakage Current		$I_{DSS}$	$V_{DS}=25\text{V}$ , $V_{GS}=0\text{V}$	100			mA
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	$V_{GS}=0\text{V}$ , $I_D=3\text{mA}$			200	$\Omega$
<b>SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS</b>							
Drain-Source Diode Forward Voltage		$V_{SD}$	$I_{SD}=3.0\text{mA}$ , $V_{GS}=-10\text{V}$			1	V

Note: 1. Repetitive rating, pulse width limited by maximum junction temperature.

2. Pulse width  $\leq 380\mu\text{s}$ ; duty cycle  $\leq 2\%$ .

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.