



UDF020N120M

Advance

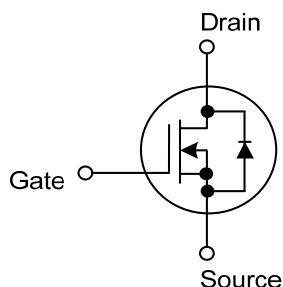
Power MOSFET

**0.2A, 1200V N-CHANNEL
DEPLETION-MODE POWER
MOSFET****DESCRIPTION**

The UTC **UDF020N120M** is an N-channel power MOSFET using UTC's advanced technology to provide the customers with high switching speed.

FEATURES

- * $R_{DS(ON)} \leq 300 \Omega$ @ $V_{GS}=0V$, $I_D=0.1A$
- * High Switching Speed

SYMBOL**ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UDF020N120ML-AA3-R	UDF020N120MG-AA3-R	SOT-223	G	D	S	Tape Reel
UDF020N120ML-T92-B	UDF020N120MG-T92-B	TO-92	G	D	S	Tape Box
UDF020N120ML-T92-K	UDF020N120MG-T92-K	TO-92	G	D	S	Bulk

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

UDF020N120MG-AA3-R	(1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel, B: Tape Box, K: Bulk (2) AA3: SOT-223, T92: TO-92 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

SOT-223	TO-92
20N120M 1 L: Lead Free G: Halogen Free Date Code	UTC 20N120M 1 Lot Code L: Lead Free G: Halogen Free Date Code

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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage (Note 2)		V_{DSS}	1200	V
Drain-Gate Voltage (Note 2)		V_{DGX}	1200	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	Continuous	I_D	0.2	A
	Pulsed	I_{DM}	0.4	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	θ_{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
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV _{DSS}	I _p =250μA, V _{GS} =-5V	1200			V
Drain-Source Leakage Current		I _{D(OFF)}	V _{DS} =1200V, V _{GS} =-5V			0.1	μA
Gate-Source Leakage Current	Forward	I _{GSS}	V _{GS} =+20V, V _{DS} =0V			+100	nA
	Reverse		V _{GS} =-20V, V _{DS} =0V			-100	nA
ON CHARACTERISTICS							
Gate to Source Cut Off Voltage		V _{GS(OFF)}	V _{DS} =3V, I _D =8μA	-4.5		-7.0	V
Drain-Source Leakage Current		I _{DSS}	V _{DS} =25V, V _{GS} =0V	50			mA
Static Drain-Source On-State Resistance		R _{DS(ON)}	V _{GS} =0V, I _D =0.1A			300	Ω
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS							
Drain-Source Diode Forward Voltage		V _{SD}	I _{SD} =3.0mA, V _{GS} =-10V			1	V

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

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

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