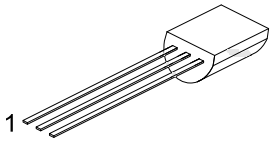
0.2A, 1200V N-CHANNEL DEPLETION-MODE POWER MOSFET

SOT-223



TO-92

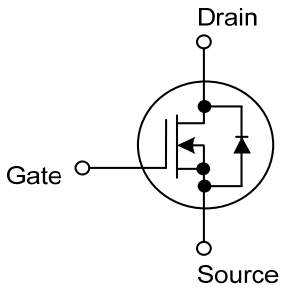
■ DESCRIPTION

The UTC **UDF020N120** 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



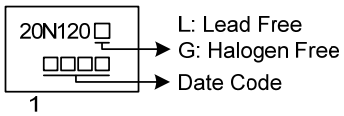
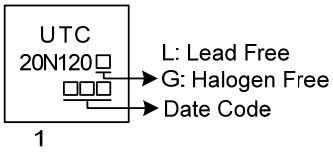
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UDF020N120L-AA3-R	UDF020N120G-AA3-R	SOT-223	G	D	S	Tape Reel
UDF020N120L-T92-B	UDF020N120G-T92-B	TO-92	G	D	S	Tape Box
UDF020N120L-T92-K	UDF020N120G-T92-K	TO-92	G	D	S	Bulk

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

UDF020N120G-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

■ MARKING

SOT-223	TO-92
	

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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	°C
Storage Temperature		T_{STG}	-55 ~ +150	°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°C~+150°C

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-223	θ_{JA}	150	°C/W
	TO-92		200	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV_{DSS}	I_D=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	-2.0		-4.5	V
Drain-Source Leakage Current		I_{DSS}	V_{DS}=25V, V_{GS}=0V	60			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 ≤ 380μs; duty cycle ≤ 2%.