UNISONIC TECHNOLOGIES CO., LTD

UP672

Power MOSFET

N-CHANNEL MOSFET ARRAY
FOR SWITCHING

SOT-363

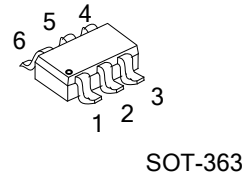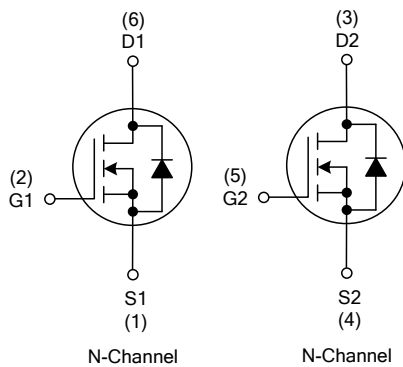### ■ DESCRIPTION

The UTC **UP672** includes two MOSFET devices in a SOT-363 package. It achieves high-density mounting and saves mounting costs.

■ FEATURES

* Automatic mounting supported

■ SYMBOL

N-Channel   N-Channel

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UP672L-AL6-R	UP672G-AL6-R	SOT-363	S1	G1	D2	S2	G2	D1	Tape Reel

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

UP672L - AL6 - R

(1) Packing Type   (1) R: Tape Reel

(2) Package Type   (2) AL6: SOT-363

(3) Lead Free   (3) L: Lead Free, G: Halogen Free

■ MARKING

672□ → L: Lead Free
       G: Halogen Free

UP672
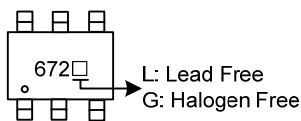
■ **ABSOLUTE MAXIMUM RATINGS** (T_A=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	50	V
Gate-Source Voltage		V_{GSS}	±7.0	V
Drain Current	Continuous	I_D	100	mA
	Pulsed (Note 2)	I_{DM}	200	mA
Total Power Dissipation		P_D	200	mW
Channel Temperature		T_{CH}	150	°C
Storage Temperature Range		T_{STG}	-55 ~ +150	°C

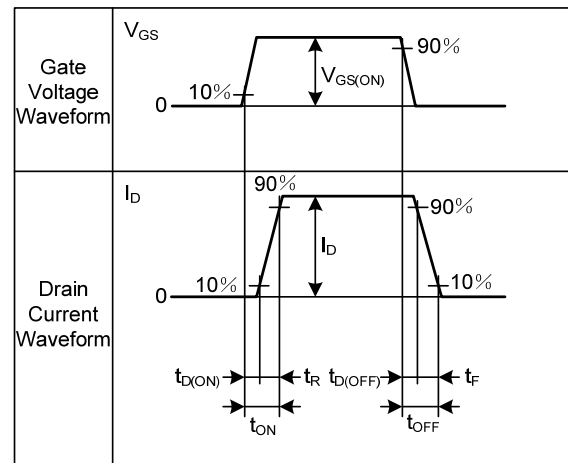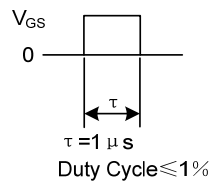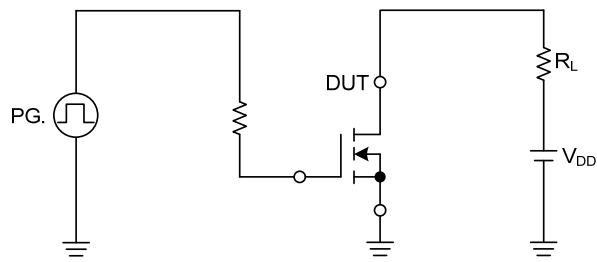Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
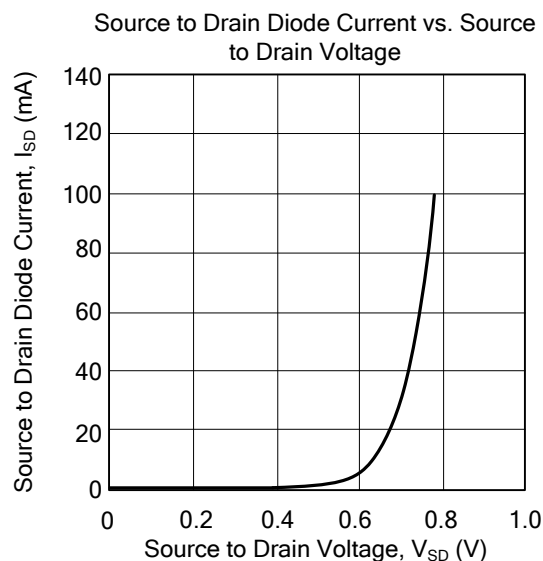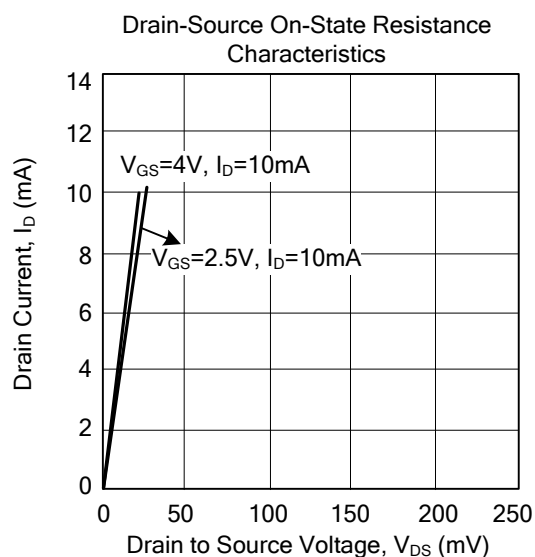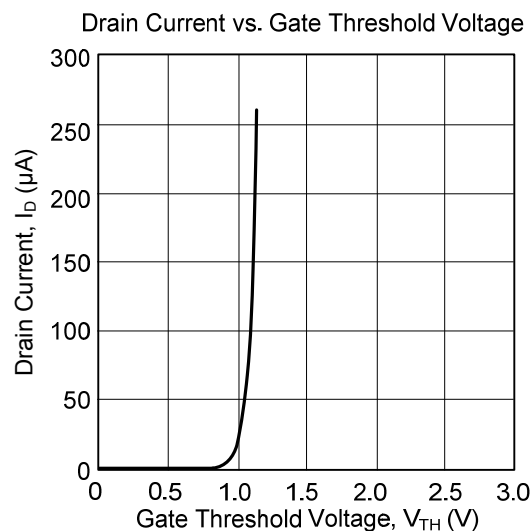   2. PW ≤ 10ms, Duty Cycle ≤ 50%

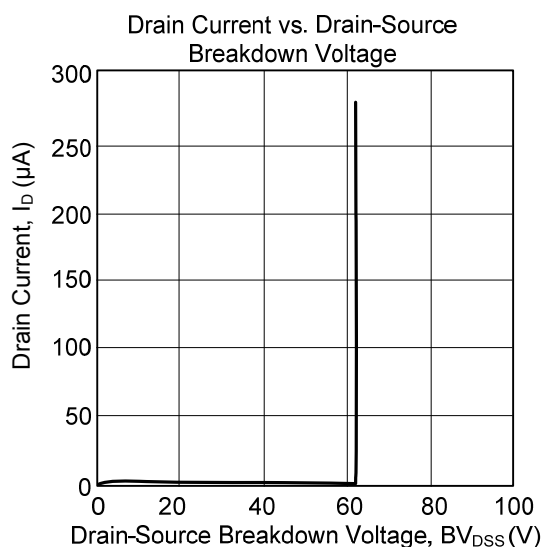■ **ELECTRICAL CHARACTERISTICS** (T_C=25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV_{DSS}	I_D=250µA, V_{GS}=0V	50			V
Drain-Source Leakage Current		I_{DSS}	V_{DS}=50V, V_{GS}=0V			10	µA
Gate-Source Leakage Current	Forward	I_{GSS}	V_{DS}=0V ,V_{GS}=7.0V			5.0	µA
	Reverse		V_{DS}=0V ,V_{GS}=-7.0V			-5.0	µA
ON CHARACTERISTICS							
Gate Threshold Voltage		$V_{GS(OFF)}$	V_{DS}=3.0V, I_D=1.0µA	0.7	1.0	1.5	V
Drain-Source On-State Resistance		$R_{DS(ON)1}$	V_{GS}=2.5V, I_D=10mA		3	40	Ω
		$R_{DS(ON)2}$	V_{GS}=4.0V, I_D=10mA		2.3	20	Ω
Forward Transconductance		$|y_{FS}|$	V_{DS}=3.V, I_D=10mA	20			mS
DYNAMIC PARAMETERS							
Input Capacitance		C_{ISS}			27		pF
Output Capacitance		C_{OSS}	V_{DS}=3.0V, V_{GS}=0V, f=1.0MHz		17		pF
Reverse Transfer Capacitance		C_{RSS}			11		pF
SWITCHING PARAMETERS							
Turn-ON Delay Time		$t_{D(ON)}$			30		ns
Turn-ON Rise Time		t_R	V_{DD}=3V,I_D=20mA, $V_{GS(ON)}$=3V,		18		ns
Turn-OFF Delay Time		$t_{D(OFF)}$	R_G=10Ω, R_L=120Ω		42		ns
Turn-OFF Fall Time		t_F			12.5		ns

■ **SWITCHING TIME MEASUREMENT CIRCUIT AND CONDITIONS**

■ **TYPICAL CHARACTERISTICS**

Drain Current vs. Drain-Source Breakdown Voltage

Drain Current vs. Gate Threshold Voltage

Drain-Source On-State Resistance Characteristics

V_{GS}=4V, I_D=10mA

V_{GS}=2.5V, I_D=10mA

Source to Drain Diode Current vs. Source to Drain Voltage