

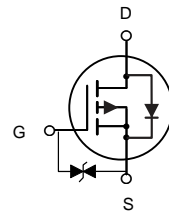


## Description

The AON1605 uses advanced trench technology to provide excellent  $R_{DS(ON)}$ , low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a Battery protection or in other Switching application.



DFN1006-3L  
(DFN-3(0.6x1))



P-Channel MOSFET

## General Features

$V_{DS} = -20V$   $I_D = -0.8A$

$R_{DS(ON)} < 560\text{ m}\Omega @ V_{GS} = -4.5V$

$R_{DS(ON)} < 780\text{ m}\Omega @ V_{GS} = -2.5V$

ESD Rating: 1500V HBM

## Application

Battery protection

Load switch

Uninterruptible power supply

## Ordering Information

Product ID	Pack	Brand	Qty(PCS)
AON1605	DFN1006-3L(DFN-3(0.6x1))	HXY MOSFET	10000

## Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Limit	Unit
$V_{DS}$	Drain-Source Voltage	-20	V
$V_{GS}$	Gate-Source Voltage	$\pm 12$	V
$I_D$	Drain Current-Continuous	-0.8	A
$P_D$	Maximum Power Dissipation	100	mW
$T_J, T_{STG}$	Operating Junction and Storage Temperature Range	-55 To 150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient <sup>(Note 2)</sup>	1250	$^\circ\text{C/W}$



$T_a=25^{\circ}\text{C}$  unless otherwise noted

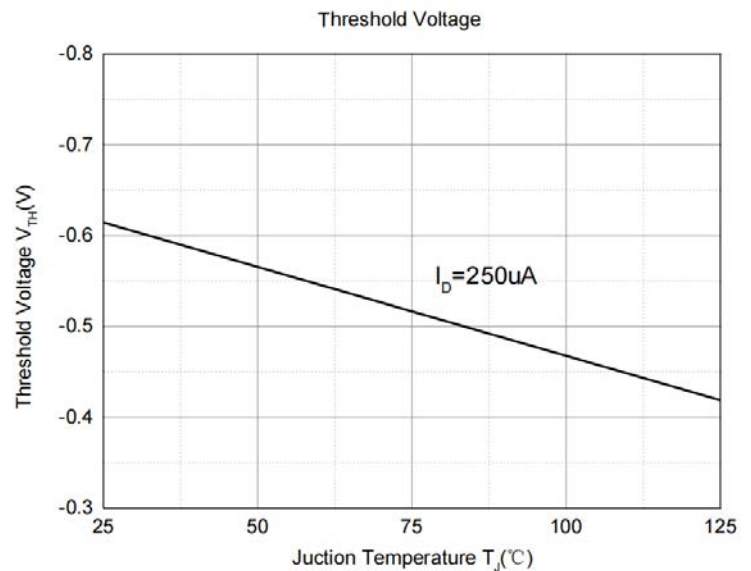
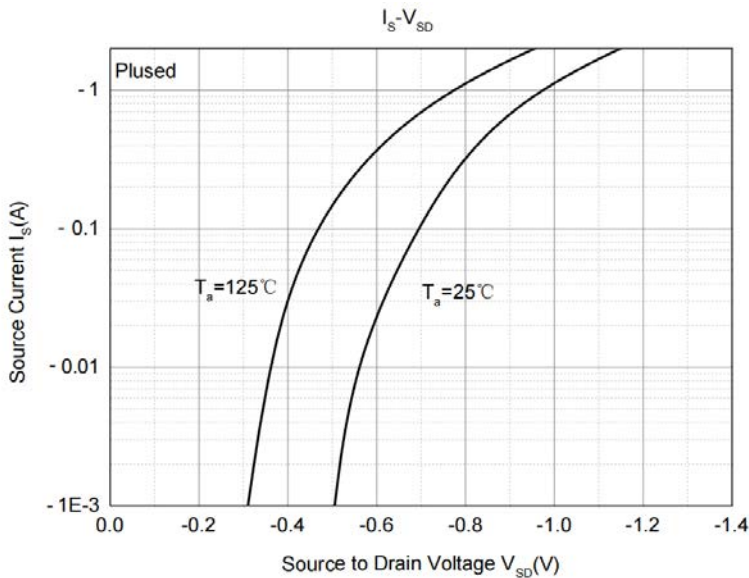
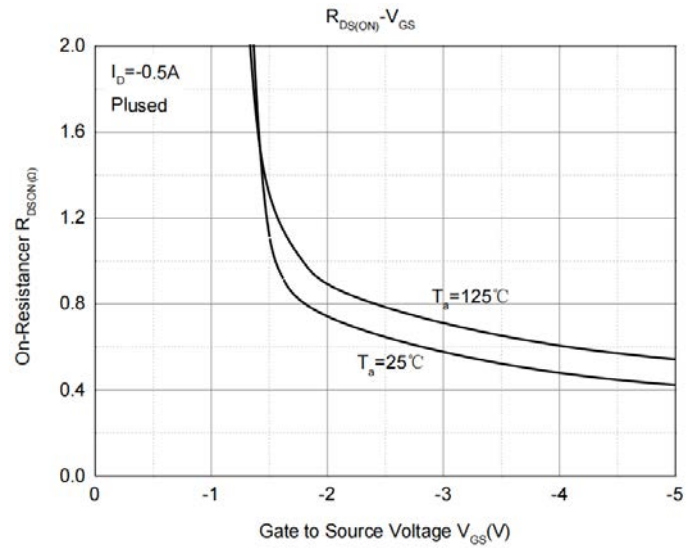
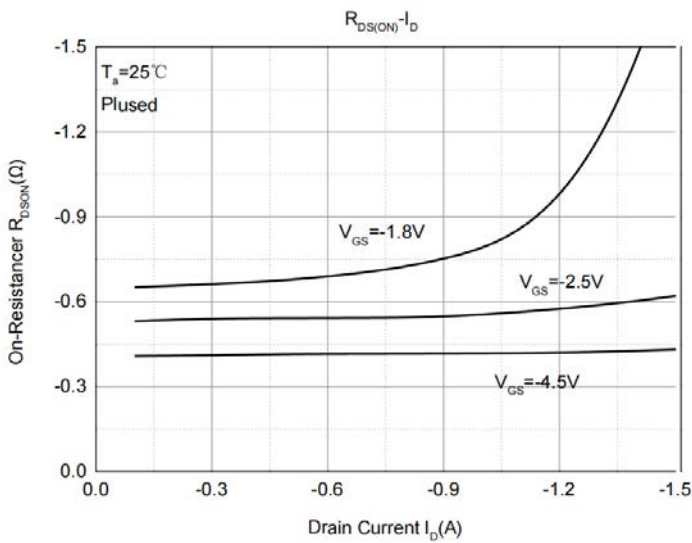
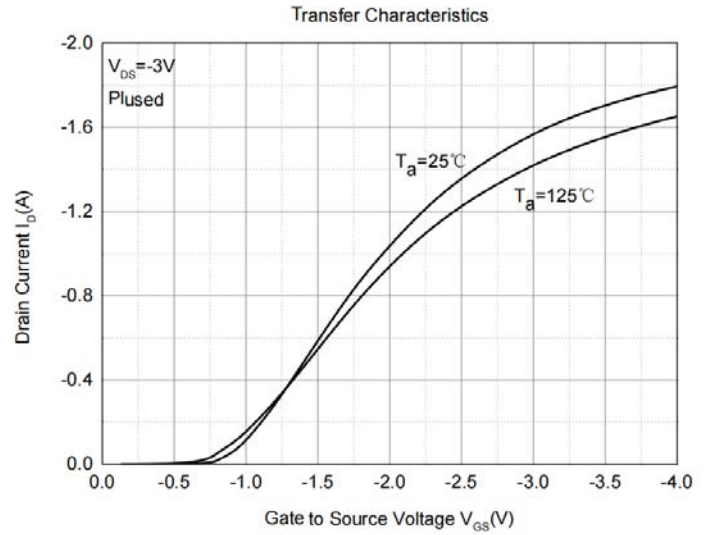
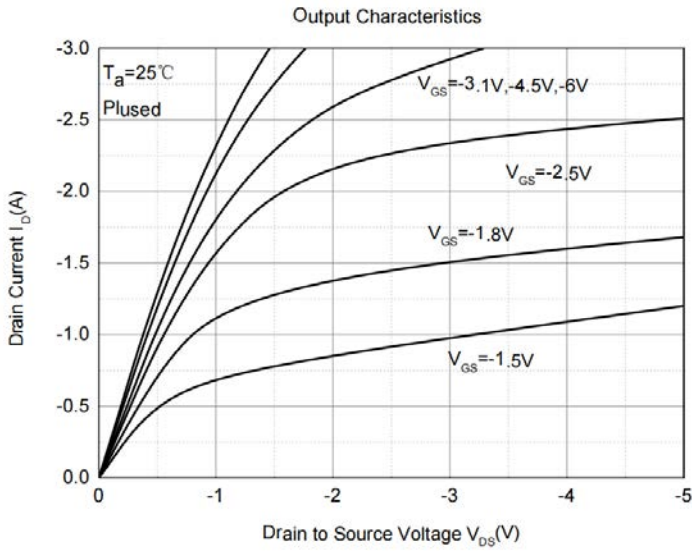
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
<b>STATIC PARAMETERS</b>							
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V	
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$			-1	$\mu A$	
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 20$	$\mu A$	
Gate threshold voltage (note 2)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.35	-0.61	-1.1	V	
Drain-source on-resistance(note 2)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -1A$		350	390	$m\Omega$	
		$V_{GS} = -2.5V, I_D = -0.8A$		395	460	$m\Omega$	
		$V_{GS} = -1.8V, I_D = -0.5A$		450		$m\Omega$	
Forward tranconductance(note 2)	$g_{FS}$	$V_{DS} = -10V, I_D = -0.54A$		1.2		S	
Diode forward voltage	$V_{SD}$	$I_S = -0.5A, V_{GS} = 0V$			-1.2	V	
<b>DYNAMIC PARAMETERS(note 4)</b>							
Input Capacitance	$C_{iss}$	$V_{DS} = -16V, V_{GS} = 0V, f = 1MHz$		113		pF	
Output Capacitance	$C_{oss}$				15		pF
Reverse Transfer Capacitance	$C_{rss}$				9		pF
<b>SWITCHING PARAMETERS (note 4)</b>							
Turn-on delay time (note 3)	$t_{d(on)}$	$V_{DD} = -4.5V, V_{GS} = -10V,$ $I_D = -200mA, R_{GEN} = 10\Omega$		9		ns	
Turn-on rise time (note 3)	$t_r$				5.7		ns
Turn-off delay time (note 3)	$t_{d(off)}$				32.6		ns
Turn-off fall time (note 3)	$t_f$				20.3		ns

**Notes:**

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300 $\mu s$ , Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

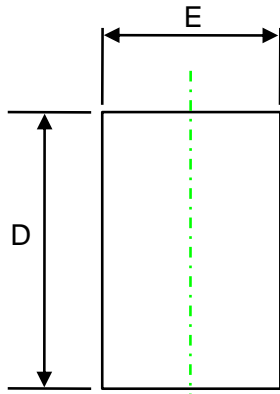


### Typical Electrical

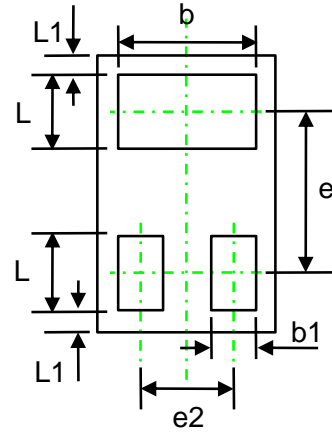




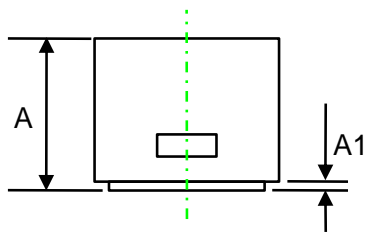
### DFN1006-3L(DFN-3(0.6x1)) Package Outline Dimensions



TOP VIEW



BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters (mm)		
	Min.	Typ.	Max.
A	0.44	0.47	0.50
A1	0.00	0.03	0.05
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.45	0.50	0.55
e	-	0.65	-
e2	-	0.35	-
L1	0.05 REF.		
L	0.20	0.25	0.30
b1	0.10	0.15	0.20



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