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elektronikai alkatrész áruház

EN: This Datasheet is presented by the manufacturer.

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1. Description

The AO4435 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.

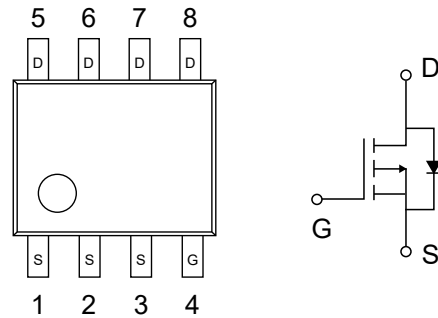
2. Features

- $V_{DS(V)} = -30V$
- $I_D = -12A$
- $R_{DS(ON)} < 20m\Omega (V_{GS} = 10V)$

3. Pinning information

Pin	Symbol	Description
4	G	GATE
1,2,3	S	SOURCE
5,6,7,8	D	DRAIN

SOP-8



4. Absolute Maximum Ratings $T_A = 25^\circ C$

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current ³ , $V_{GS} = 10V$	I_D	$T_A = 25^\circ C$	-12
		$T_A = 70^\circ C$	-10
Pulsed Drain Current ¹	I_{DM}	-50	A
Total Power Dissipation	P_D	$T_A = 25^\circ C$	2.5
Linear Derating Factor			0.02
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ C$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ C$
Maximum Thermal Resistance, Junction-ambient ³	R_{thJA}	50	$^\circ C/W$



5. Electrical Characteristic (T_j=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA, V _{GS} =0V	-30			V
Static Drain-Source On-Resistance ²	R _{DS(ON)}	V _{GS} =-10V, I _D =-7A		15	20	mΩ
		V _{GS} =-4.5V, I _D =-5A		25	32	mΩ
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1		-3	V
Forward Transconductance	g _{FS}	V _{DS} =-10V, I _D =-7A		16		S
Drain-Source Leakage Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-5	uA
Gate-Source Leakage	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
Total Gate Charge	Q _g	I _D =-7A		18	29	nC
Gate-Source Charge	Q _{gs}	V _{DS} =-24V		3		nC
Gate-Drain ("Miller") Charge	Q _{gd}	V _{GS} =-4.5V		10		nC
Turn-on Delay Time	t _{D(on)}	V _{DS} =-15V		8		ns
Rise Time	t _r	I _D =-1A		6.6		ns
Turn-off Delay Time	t _{D(off)}	R _G =3.3Ω		44		ns
Fall Time	t _f	V _{GS} =-10V		34		ns
Input Capacitance	C _{iss}	V _{GS} =0V		1175	1690	pF
Output Capacitance	C _{oss}	V _{DS} =-25V		195		pF
Reverse Transfer Capacitance	C _{rss}	f=1MHz		190		pF
Forward On Voltage ²	V _{SD}	I _S =-2.1A, V _{GS} =0V			-1.2	V
Reverse Recovery Time	t _{rr}	I _F =-7A, V _{GS} =0V		28		ns
Reverse Recovery Charge	Q _{rr}	dI/dt=100A/μs		18		nC

Notes:

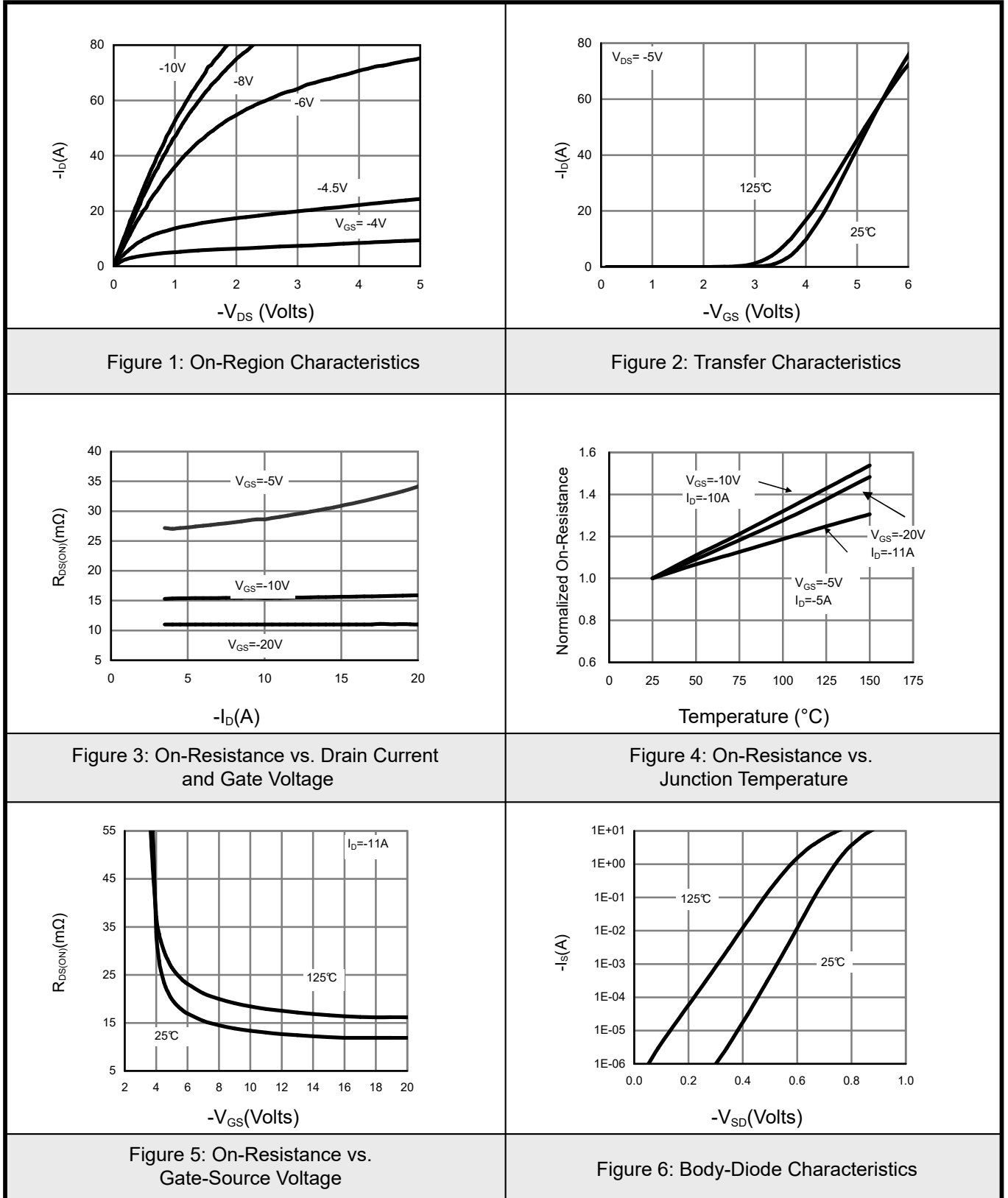
1. Pulse width limited by Max. junction temperature.

2. Pulse test

3. Surface mounted on 1 in² copper pad of FR4 board, t < 10sec ; 125 °C/W when mounted on Min. cop.

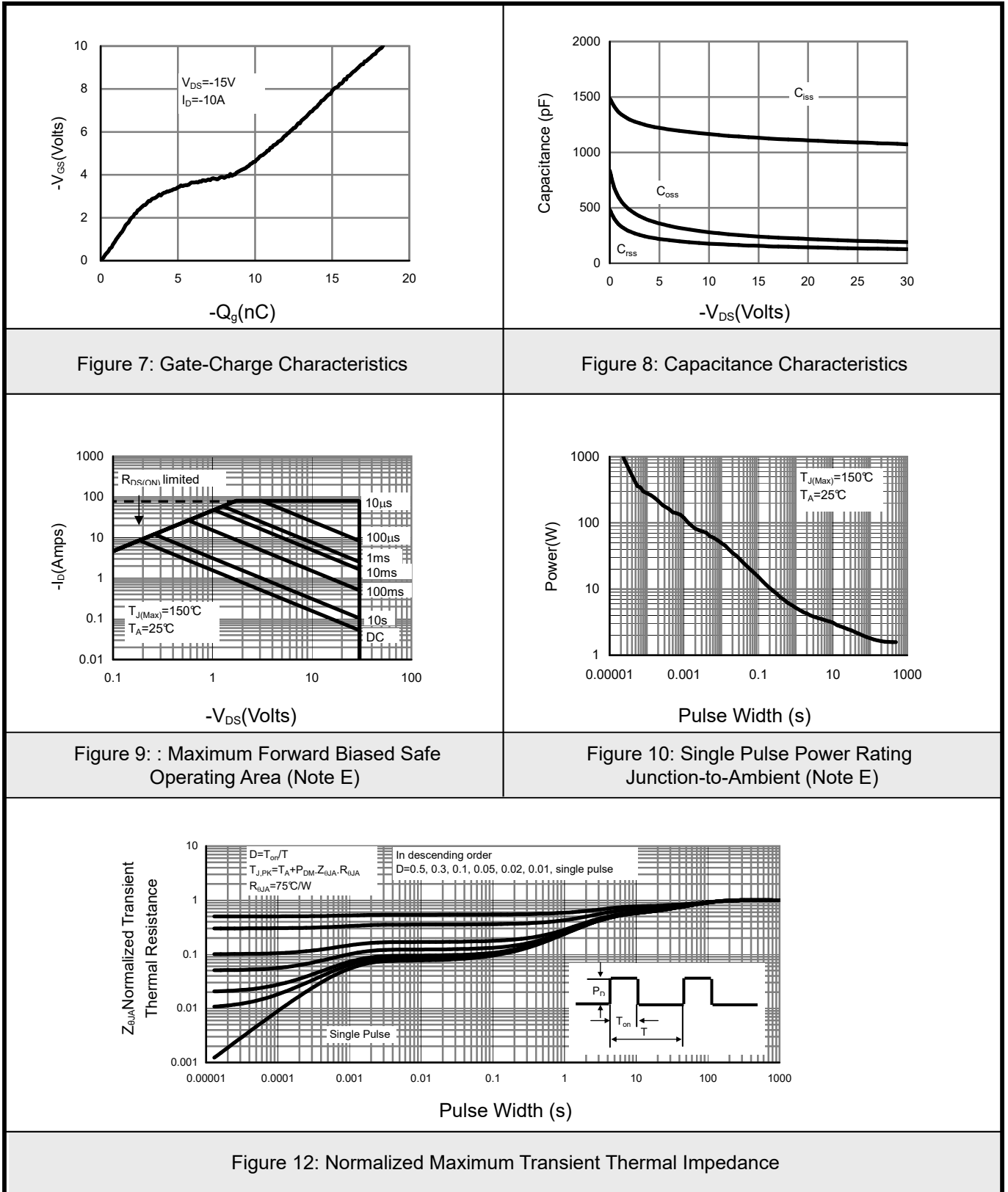


7.1 Typical characteristic



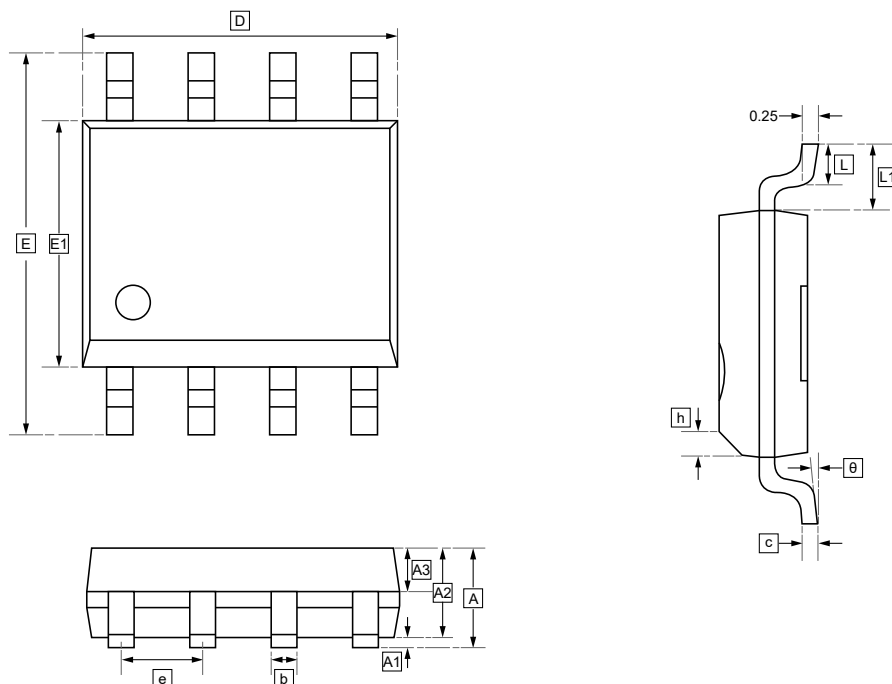


7.2 Typical characteristic





7.SOP-8 Package Outline Dimensions



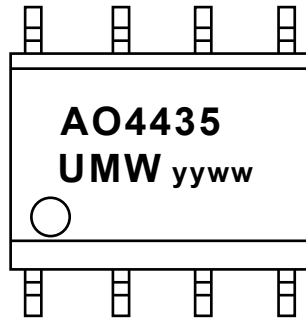
DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	A3	b	c	D	E	E1	e	h	L
Min	-	0.05	1.30	0.60	0.39	0.20	4.80	5.80	3.80	1.24	0.30	0.50
Max	1.75	0.20	1.50	0.70	0.47	0.24	5.00	6.20	4.00	1.30	0.50	0.80

Symbol	L1	θ
Min	1.00	0°
Max	1.10	8°



8. Ordering information



yy: Year Code
ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW AO4435	SOP-8	3000	Tape and reel



9.Disclaimer

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