

1.Features

- $V_{(BR)DSS}=20V$
- $I_D=6A$
- $R_{DS(ON)}<25m\Omega(V_{GS}=4.5V)$
- $R_{DS(ON)}<34m\Omega(V_{GS}=2.5V)$
- TrenchFET Power MOSFET

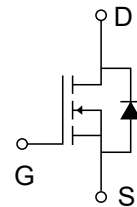
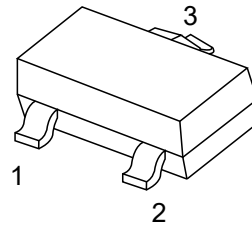
2.Applications

- Battery protection
- Load switch
- Power management

3.Pinning information

Pin	Symbol	Description
1	G	GATE
2	S	SOURCE
3	D	DRAIN

SOT-23



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

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	6	A
Continuous Source-Drain Current(Diode Conduction)	I_S	0.6	A
Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient ($t \leq 5s$)	$R_{\theta JA}$	312.5	$^{\circ}C/W$
Operating Junction	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}C$



5. Electrical Characteristics $T_A = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=10\mu A$	20			V
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=50\mu A$	0.4		1	V
Gate-body leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 8V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	μA
Drain-source on-state resistance ^a	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=6A$		21	25	m Ω
		$V_{GS}=2.5V, I_D=5.2A$		28	34	m Ω
Forward transconductance ^a	g_{FS}	$V_{DS}=5V, I_D=3.6A$		8		S
Diode forward voltage	V_{SD}	$I_S=0.94A, V_{GS}=0V$		0.74	1.2	V
Dynamic						
Total gate charge	Q_g	$V_{DS}=10V, V_{GS}=4.5V, I_D=3.6A$		7.7	10	nC
Gate-source charge	Q_{gs}			0.32		nC
Gate-drain charge	Q_{gd}			2.1		nC
Input capacitance ^b	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		574		pF
Output capacitance ^b	C_{oss}			70		pF
Reverse transfer capacitance ^b	C_{rss}			60		pF
Switching ^b						
Turn-on delay time	$t_{D(on)}$	$V_{DD}=10V$ $R_L=5.5\Omega, I_D\approx 3.6A$ $V_{GEN}=4.5V, R_G=6\Omega$		78.7		ns
Rise time	t_r			128		ns
Turn-off delay time	$t_{D(off)}$			453		ns
Fall time	t_f			80.9		ns

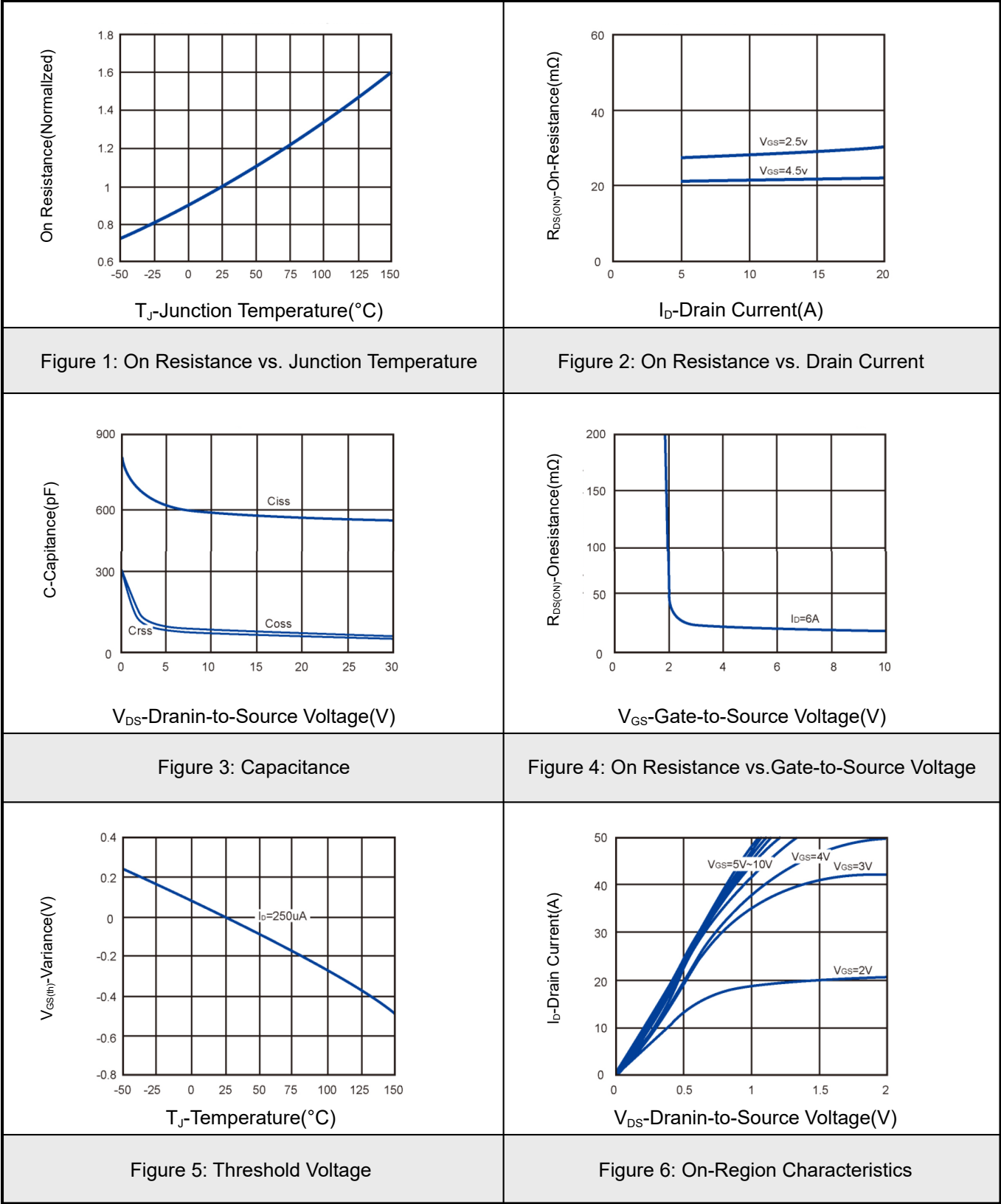
Notes :

a. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

b. These parameters have no way to verify

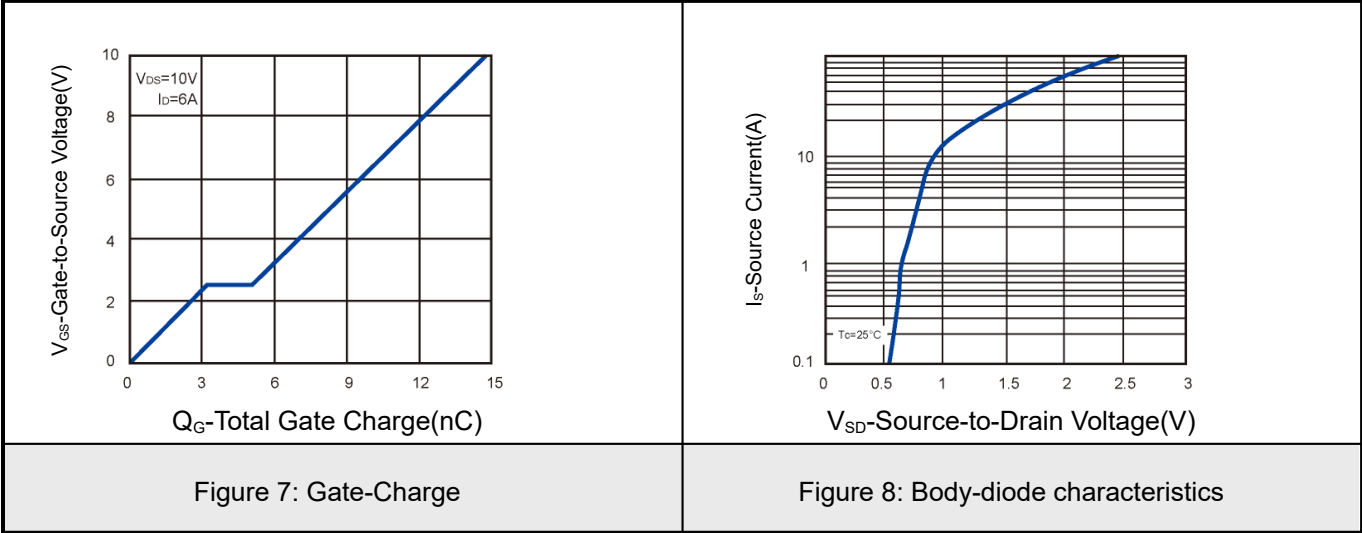


6.1Typical Characterisitics



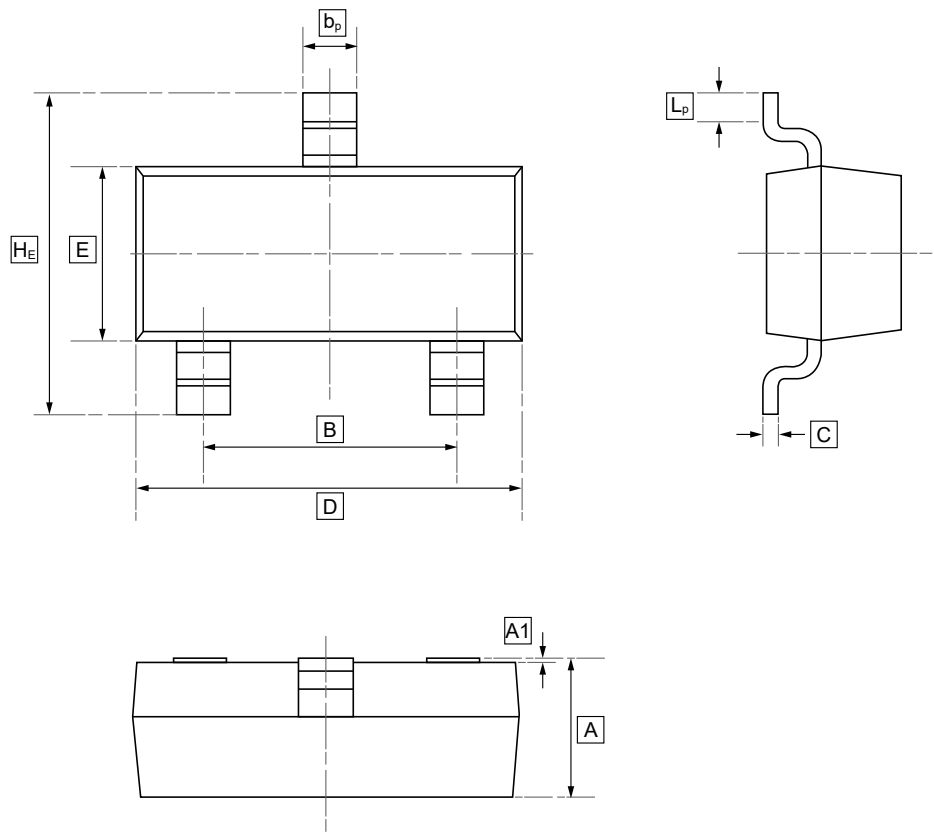


6.2Typical Characterisitics





7.SOT-23 Package Outline Dimensions

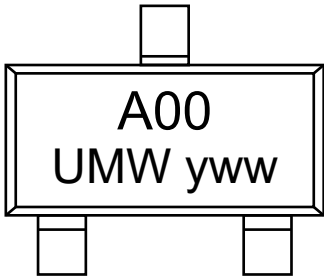


DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b _p	C	D	E	H _E	A1	L _p
Min	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
Max	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50



8.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW SI2300A	SOT-23	3000	Tape and reel



9.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

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