

1.Features

- $BV_{DSS}=20V$
- $R_{DS(ON)} \leq 27m\Omega (V_{GS}=4.5V), I_D=5A$
- $R_{DS(ON)} \leq 36m\Omega (V_{GS}=2.5V), I_D=3A$
- Low gate Charge
- Fast switching capability
- High reliability and rugged

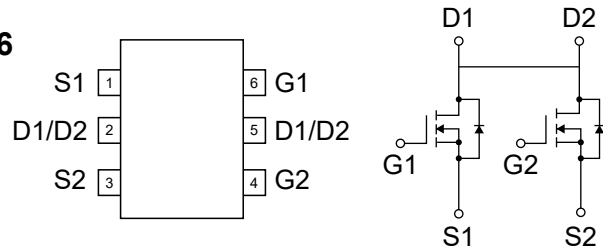
2.Application

- Portable Equipment
- Battery Powered System

3.Pinning information

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

SOT23-6



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

Parameter	Symbol	Rating	Units	
Drain-Source Voltage	V_{DSS}	20	V	
Gate-Source Voltage	V_{GSS}	± 12		
Drain Current (Note 1)	Continuous	I_D	5	A
	Pulsed	I_{DM}	20	
Power Dissipation ($T_A=25^\circ C$) (Note 2)	$T_A=25^\circ C$	P_D	0.83	W
	$T_A=100^\circ C$		0.3	W
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	150	$^\circ C/W$	
Maximum Junction Temperature	T_J	150	$^\circ C$	
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ C$	

1. Pulse Test: Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$
2. Pulse width limited by $T_{J(MAX)}$

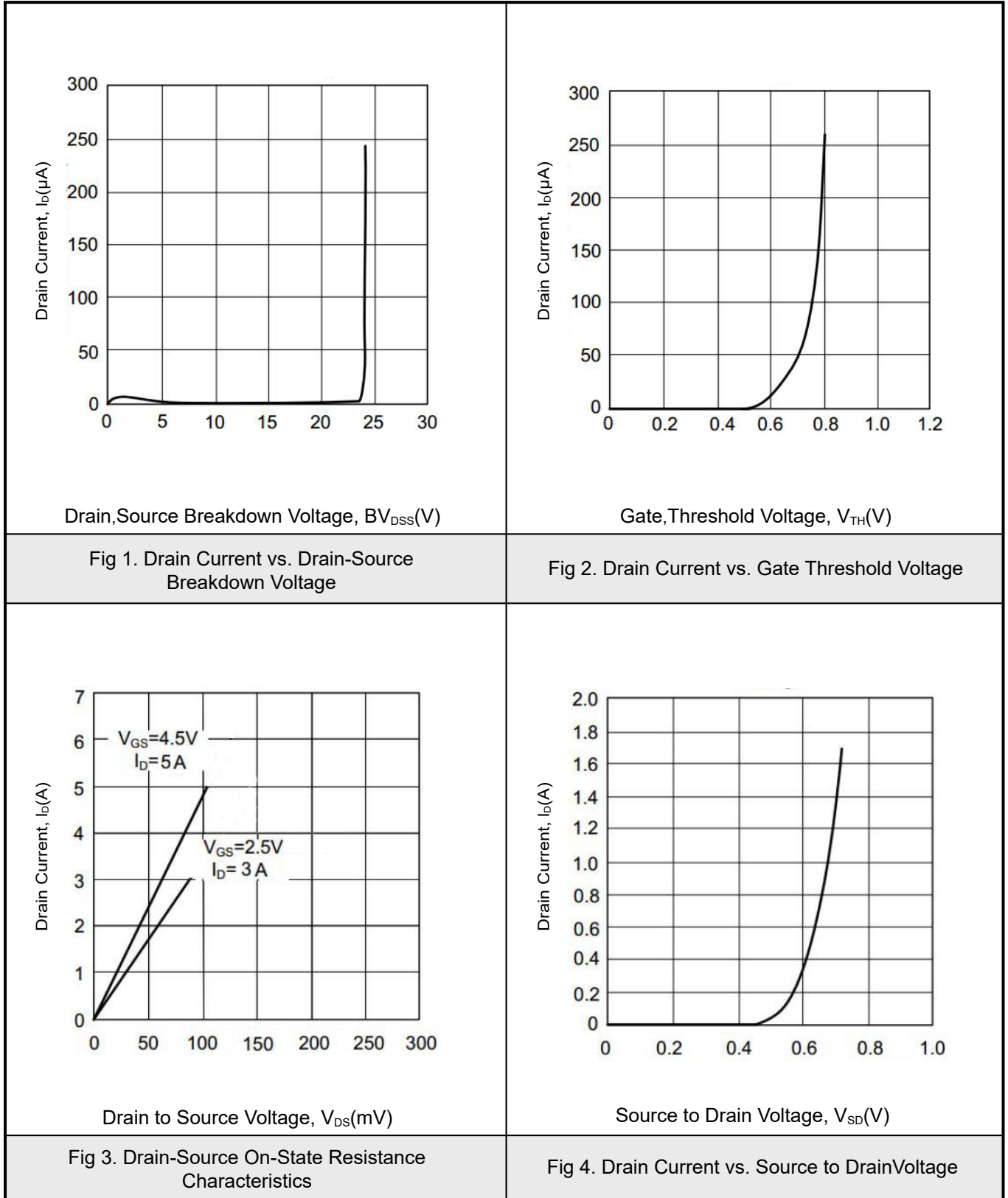


5. Electrical Characteristics $T_j = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	20			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5		1.2	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=5A$		22	27	m Ω
		$V_{GS}=2.5V, I_D=3A$		28	36	m Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		630		pF
Output Capacitance	C_{oss}			312		pF
Reverse Transfer Capacitance	C_{rss}			145		pF
SWITCHING PARAMETERS						
Turn-ON Delay Time (Note)	$t_{D(on)}$	$V_{GS}=4V, V_{DS}=10V, R_D=10\Omega$ $R_G=10\Omega, I_D=1A$		18		ns
Turn-ON Rise Time	t_r			5		ns
Turn-OFF Delay Time	$t_{D(off)}$			42		ns
Turn-OFF Fall-Time	t_f			19		ns
Total Gate Charge(Note)	Q_g	$V_{DS}=20V, V_{GS}=5V, I_D=5A$		23		nC
Gate Source Charge	Q_{gs}			4.5		nC
Gate Drain Charge	Q_{gd}			6.8		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=1.7A, V_{GS}=0V$		1.2		V
Diode Continuous Forward Current	I_S	$V_D=V_G, V_S=1.3V$		1.5		A

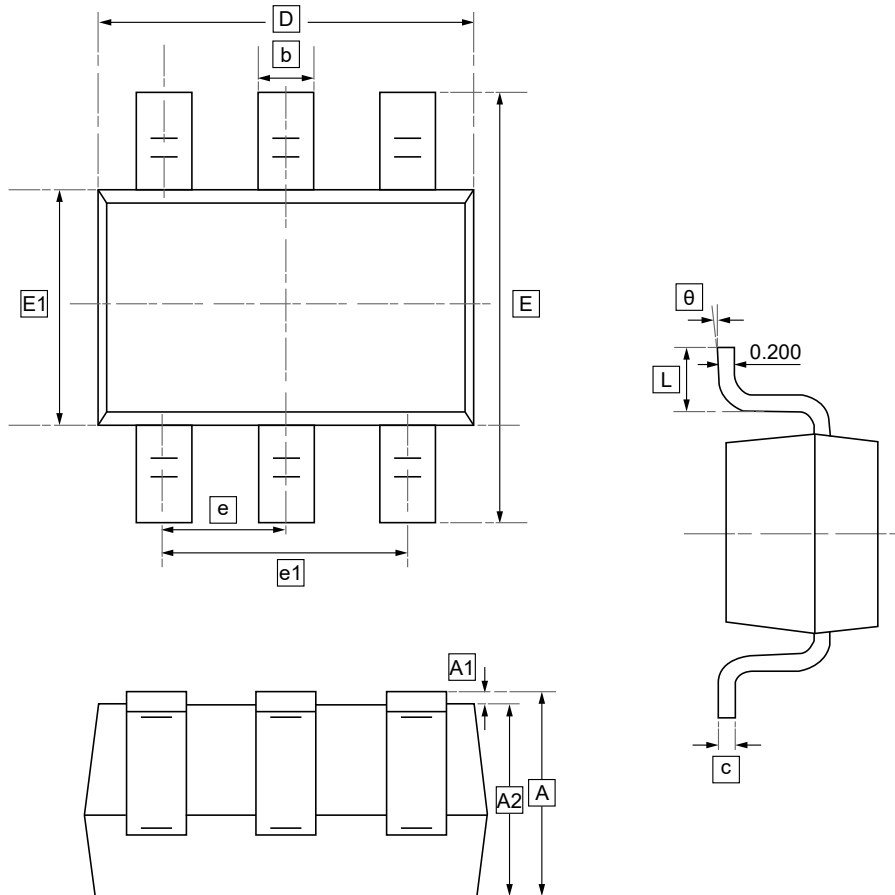


6. Typical Characteristics





7.SOT23-6 Package Outline Dimensions

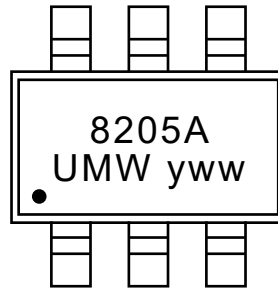


DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E1	E	e	e1	L	θ
Min	1.050	0.000	1.050	0.300	0.100	2.820	1.500	2.650	0.950	1.800	0.300	0°
Max	1.250	0.100	1.150	0.500	0.200	3.020	1.700	2.950	BSC	2.000	0.600	8°



8. Ordering information



y: Year Code
ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW 8205A	SOT23-6	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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