



DESCRIPTION

The AM8205 is available in SOT-26 and TSSOP8 packages.

BVDSS	RDSON		ID
19.5V	4.5V	18 mΩ	6A
	2.5V	22 mΩ	

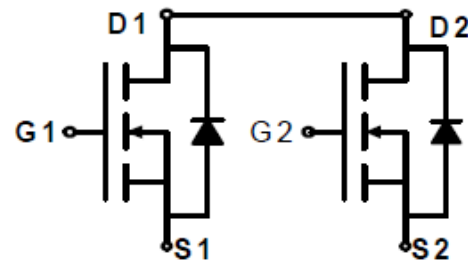
FEATURE

- High power and current handing capability
- Lead free product is acquired

APPLICATION

- Load switch
- PWM Application
- Power management

SCHEMATIC DIAGRAM



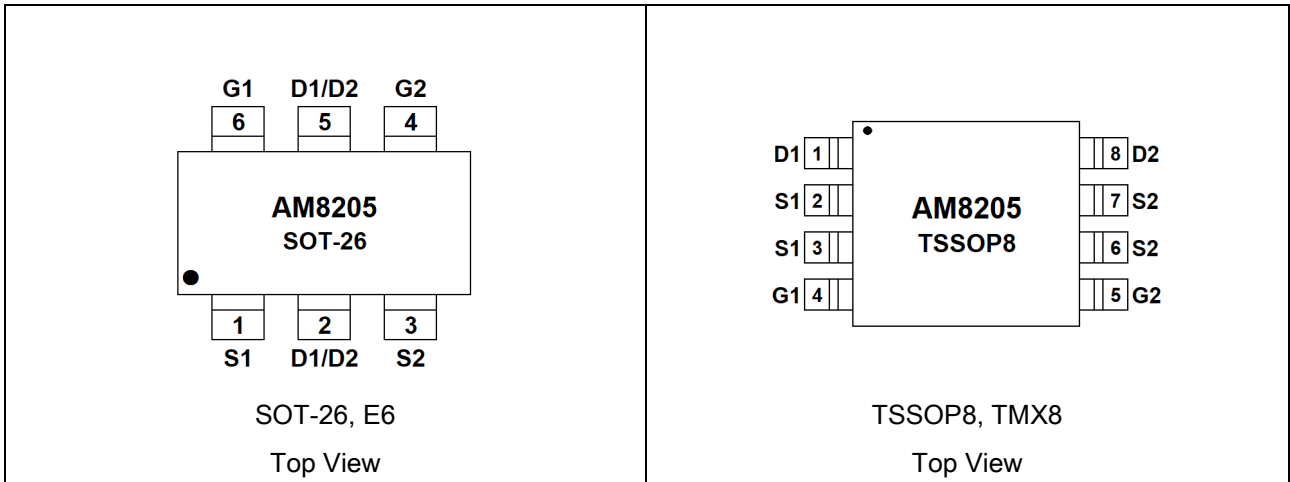
Schematic Diagram

ORDERING INFORMATION

Package Type	Part Number	
SOT-26 SPQ: 3,000pcs/Reel	E6	AM8205E6R
		AM8205E6VR
TSSOP8 SPQ: 3,000pcs/Reel	TMX8	AM8205TMX8R
		AM8205TMX8VR
Note	V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		



PIN DESCRIPTION



Pin #		Symbol	Function
SOT-26	TSSOP8		
1	2,3	S1	Source
2,5	1	D1	Drain
2,5	8	D2	Drain
3	6,7	S2	Source
6	4	G1	Gate
4	5	G2	Gate



ABSOLUTE MAXIMUM RATINGS

T_C = 25°C, unless otherwise specified.

V _{DSS} , Drain-to-Source Voltage	19.5V
I _D , Continuous Drain Current	6A
I _D , Continuous Drain Current, T _C =100°C	4A
I _{DM} , Pulsed Drain Current *	24A
P _D , Power Dissipation	2.3W
V _{GS} , Gate-to-Source Voltage	±12V
T _J , Operating Junction Temperature Range	+150°C
T _{STG} , Storage Temperature Range	-55°C~+150°C
R _{θJA} , Junction-to-Ambient	55°C/W

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

*Pulse width limited by maximum junction temperature



ELECTRICAL CHARACTERISTICS

T_C = 25°C, unless otherwise specified

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
OFF Characteristics						
Drain to Source Breakdown Voltage	V _{DSS}	V _{GS} =0V I _D =250μA	19.5	-	-	V
Drain to Source Leakage Current	I _{DSS}	V _{DS} =19V, V _{GS} =0V	-	-	1	μA
Gate to Source Forward Leakage	I _{GSS}	V _{GS} =±12V	-	-	±100	nA
ON Characteristics						
Drain-to-Source On-Resistance (SOT-26)	R _{DSON}	V _{GS} =4.5V, I _D =4A*	-	18	23.5	mΩ
		V _{GS} =2.5V, I _D =3A*	-	22	28	mΩ
Drain-to-Source On-Resistance (TSSOP8)	R _{DSON}	V _{GS} =4.5V, I _D =4A*	-	21	26	mΩ
		V _{GS} =2.5V, I _D =3A*	-	25	30	mΩ
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	0.4	0.7	1.0	V
*Pulse width tp≤300μs, δ≤2%						
Dynamic Characteristics						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =10V, f=1MHz	-	450	-	pF
Output Capacitance	C _{OSS}		-	65	-	
Reverse Transfer Capacitance	C _{RSS}		-	50	-	
Switching Characteristics						
Turn-on Delay Time	t _{d(ON)}	I _D =3A, V _{DD} =10V, V _{GS} =4.5V, R _G =3Ω	-	4	-	ns
Rise Time	t _r		-	28	-	
Turn-Off Delay Time	t _{d(OFF)}		-	66	-	
Fall Time	t _f		-	50	-	
Total Gate Charge	Q _g	I _D =3A, V _{DD} =10V, V _{GS} =4.5V	-	5.2	-	nC
Gate-Source Charge	Q _{gs}		-	0.9	-	
Gate-Drain ("Miller") Charge	Q _{gd}		-	1.1	-	
Source-Drain Diode Characteristics						
Continuous Source Current (Body Diode)	I _S	T _C =25°C	-	-	6	A
Maximum Pulsed Current (Body Diode)	I _{SM}		-	-	24	A
Diode Forward Voltage	V _{SD}	I _S =6A, V _{GS} =0V	-	-	1.2	V
Reverse Recovery Time	T _{rr}	I _S =5A, T _J =25°C, dI _F /dt=100A/us, V _{GS} =0V	-	4.7	-	ns
Reverse Recovery Charge	Q _{rr}		-	0.8	-	nC



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Output Characteristics

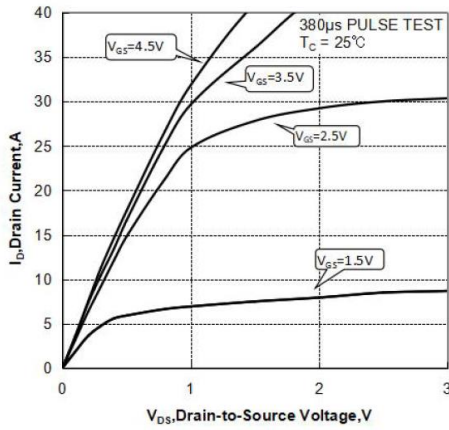


Fig 2. Transfer Characteristics

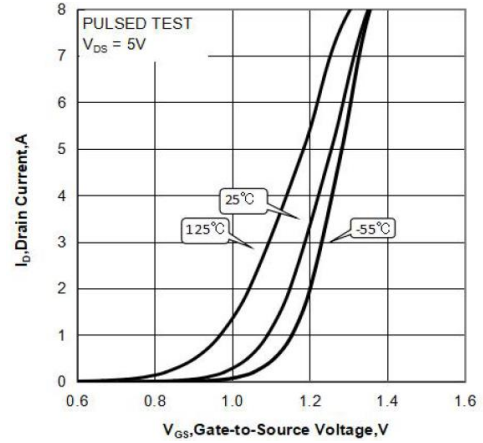


Fig 3. On-Resistance vs. I_D

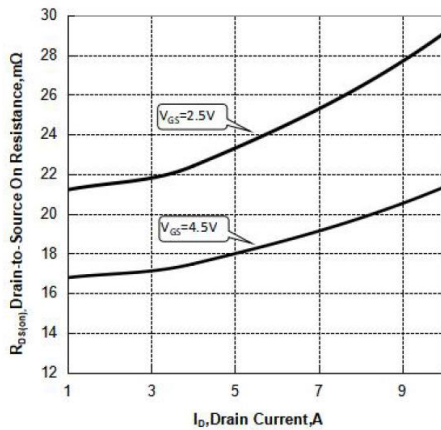


Fig 4. On-Resistance vs. Junction Temperature

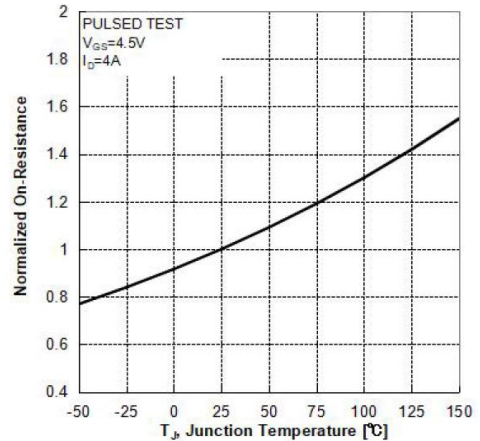


Fig 5. BV vs. Junction Temperature

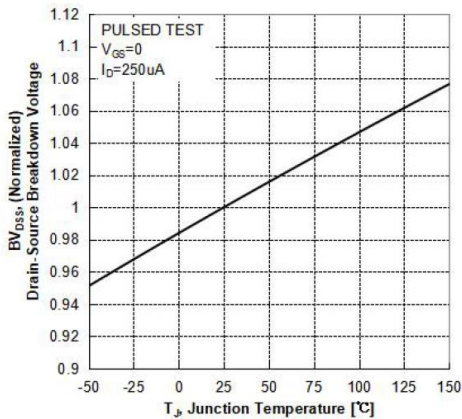


Fig 6. V_{th} vs. Junction Temperature

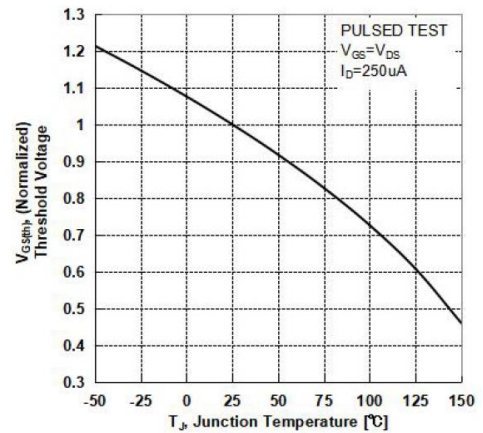




Fig 7. Gate-Charge Characteristics

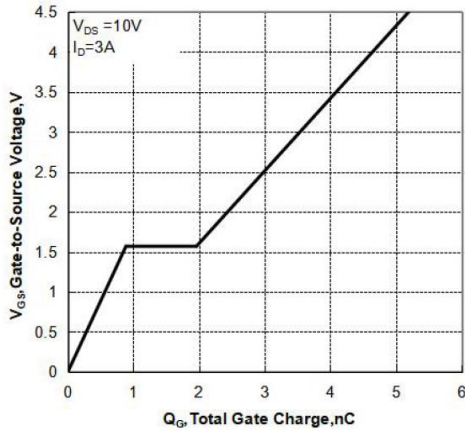


Fig 8. Capacitance Characteristics

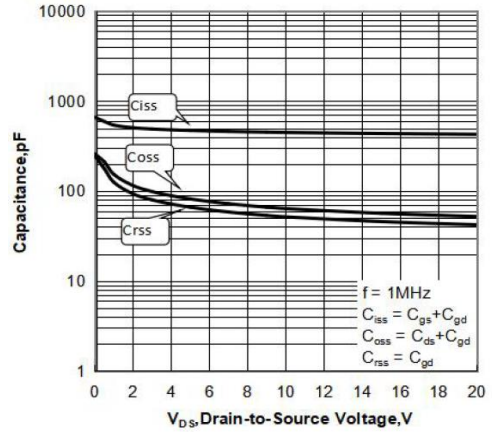


Fig 9. Body Diode Forward Voltage

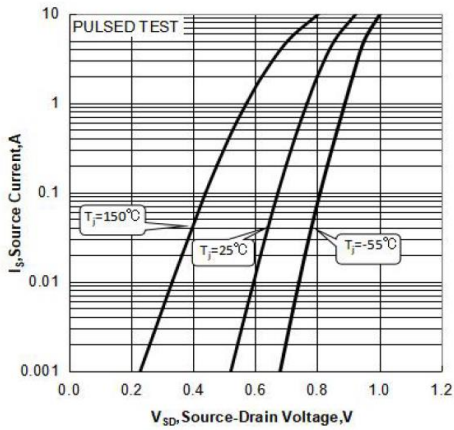


Fig 10. Maximum Safe Operating Area

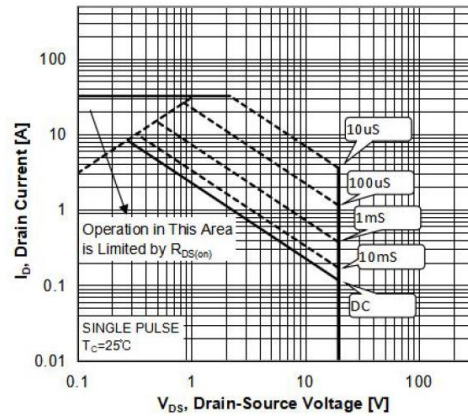
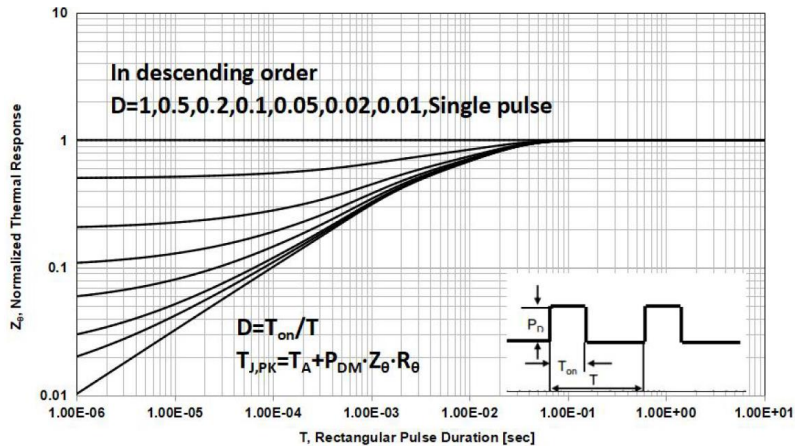


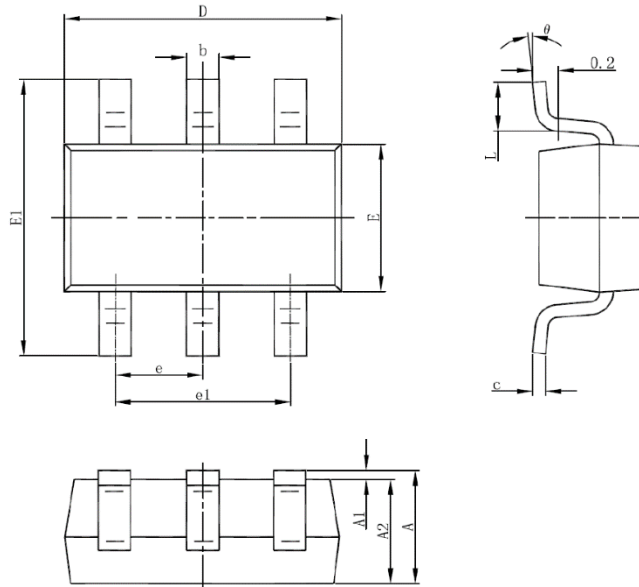
Fig 11. Transient Thermal Impedance





PACKAGE INFORMATION

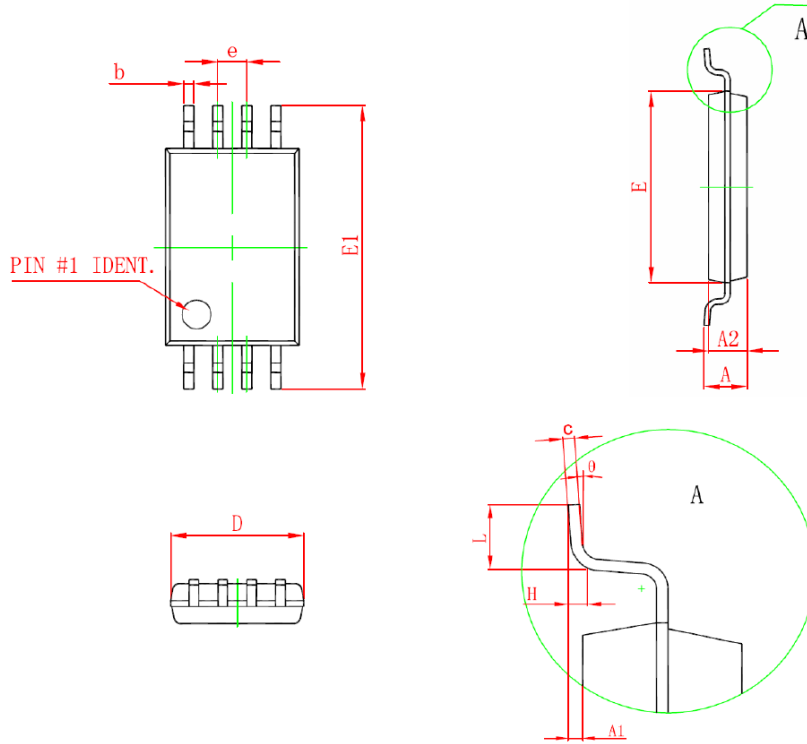
Dimension in SOT-26 (Unit: mm)



Symbol	Min	Max
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950(BSC)	
E01	1.800	2.000
L	0.300	0.600
θ	0°	8°



Dimension in TSSOP8 (Unit: mm)



Symbol	Min	Max
D	2.900	3.100
E	4.300	4.500
b	0.190	0.300
c	0.090	0.200
E1	6.250	6.550
A	-	1.100
A2	0.800	1.000
A1	0.020	0.150
e	0.650(BSC)	
L	0.500	0.700
H	0.250(TYP)	
θ	1°	7°



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