DESCRIPTION

The AM65R340D is available in TO-252 Packages.

BVDSS	RDSON	ID
650V	340mΩ	11A

APPLICATION

- SMPS
- Uninterruptible Power Supply (UPS)
- Power Factor Correction (PFC)

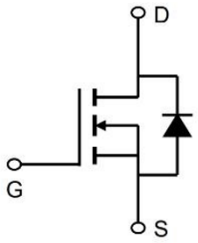
ORDERING INFORMATION

Package Type	Part Number	
TO-252	D	AM65R340D
Note	SPQ:2,500pcs/Reel	
AiT provides all RoHS products		

FEATURE

- $R_{DS(ON)}$ Typ. =340mΩ @ V_{GS}=10V
- Ultra low $R_{DS(on)}$ and Gate Charge
- 100% UIS tested

PIN DESCRIPTION



Pin#	Symbol	Function
1	G	Gate
2	D	Drain
3	S	Source

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	B_{VDS}	650	V
Gate-to-Source Voltage	V_{GS}	±30	V
Continuous Drain Current	I_D	11	A
Pulsed Drain Current (1)	I_{DM}	44	A
Single Pulse Avalanche Energy (1)	E_{AS}	270	mJ
Power Dissipation	P_D	30	W
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	4.2	°C/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	62	
Operating Junction and Storage Temperature Range	T_J , T_{STG}	150 , –55 to 150	°C

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.

(1) Pulse test: 300μs pulse width, 2% duty cycle

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	650	-	-	V
Drain to Source Leakage Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V	-	-	1	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = ±30V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250μA	2.5	-	4.5	V
Drain-to-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=5.5A	-	340	390	mΩ
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 100V f = 250KHz	-	900	-	pF
Output Capacitance	C_{oss}		-	37.4	-	
Reverse Transfer Capacitance	C_{rss}		-	0.46	-	
Total Gate Charge(2)	Q_g	V_{GS} = 10V, I_D =5.5A, V_{DS} =520V	-	4.6	-	nC
Gate to Source Charge(2)	Q_{gs}		-	8.5	-	
Gate to Drain Charge(2)	Q_{gd}		-	20.6	-	
Switching Characteristics						
Turn-on Delay Time(2)	$t_{d(on)}$	V_{GS}=10V, V_{DD}=400V, I_D =5.5A, R_G =10Ω	-	46.8	-	ns
Rise Time(2)	t_r		-	10.6	-	
Turn-Off Delay Time(2)	$t_{d(off)}$		-	40.2	-	
Fall Time(2)	t_f		-	7	-	
Drain-Source Body Diode Characteristics						
Maximum Pulsed Current (Body Diode)	I_S	-	-	-	11	A
Maximum Pulsed Current (Body Diode) (2)	I_{SM}	-	-	-	44	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=5.5A	-	-	1.2	V
Reverse Recovery Time	T_{rr}	V_R=400V, I_F=5.5A, dI/dt=100A/μs	-	240	-	ns
Reverse Recovery Charge	Q_{rr}		-	1962	-	nC

(2) Pulse test: 300μs pulse width, 2% duty cycle

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Typical Output Characteristics

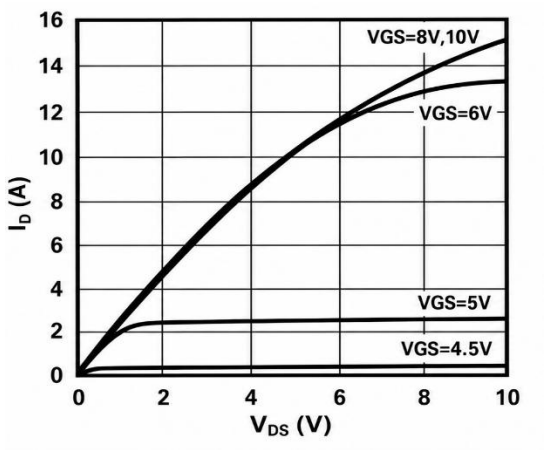


Fig 2. Transfer Characteristics

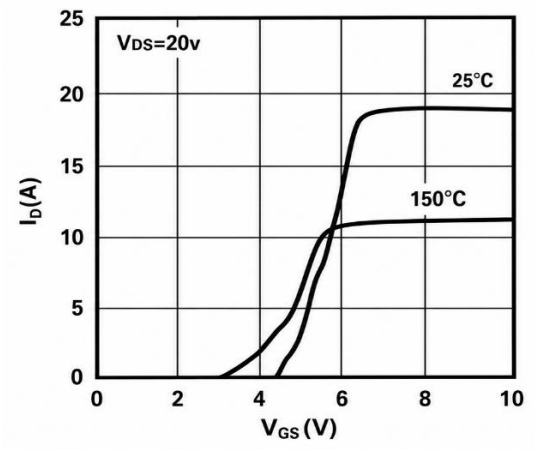


Fig 3. $R_{ds(on)}$ vs. Drain Current and Gate Voltage

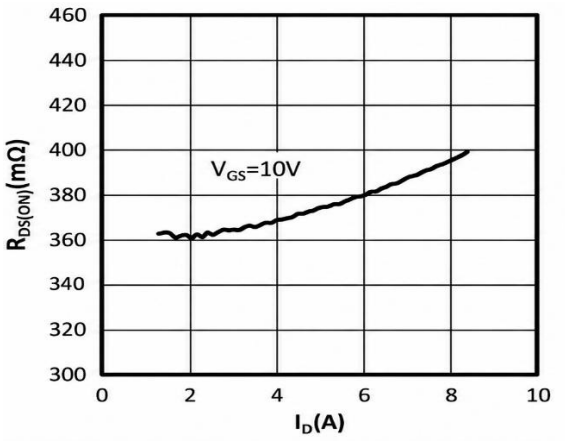


Fig 4. $R_{ds(on)}$ vs. Temperature

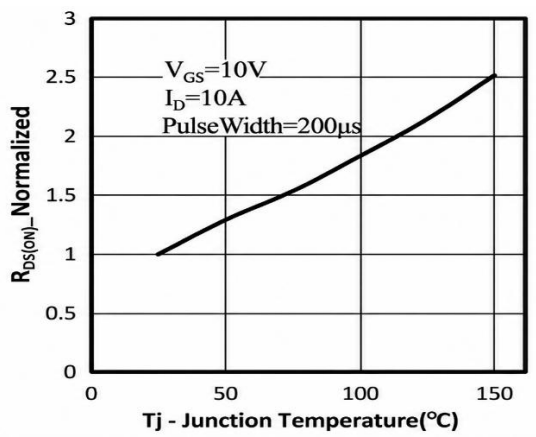


Fig 5. Breakdown Voltage vs. Temperature

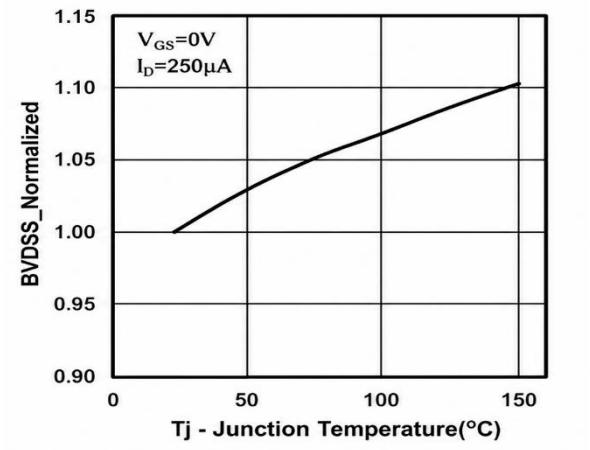


Fig 6. Threshold voltage vs. Temperature

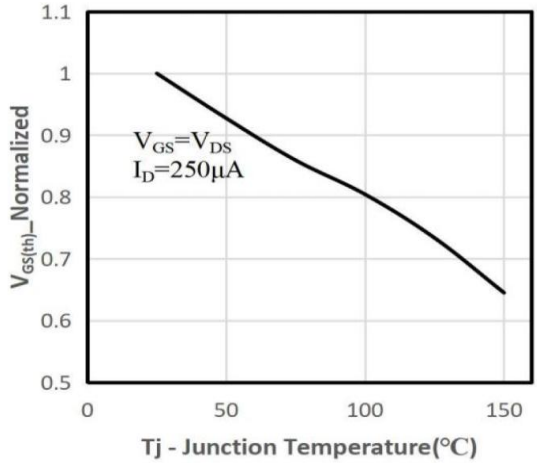


Fig 7. Body-Diode Characteristics

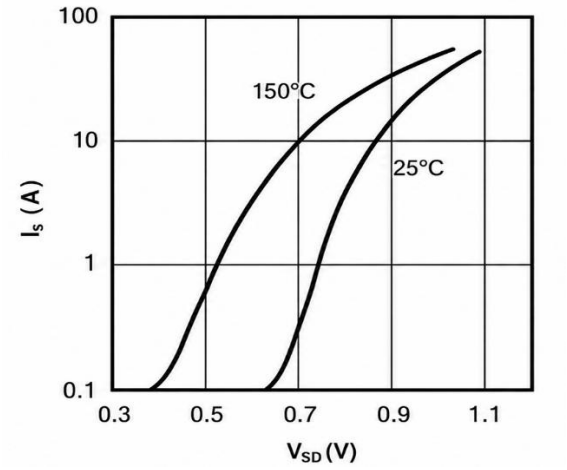


Fig 8. Capacitance Characteristics

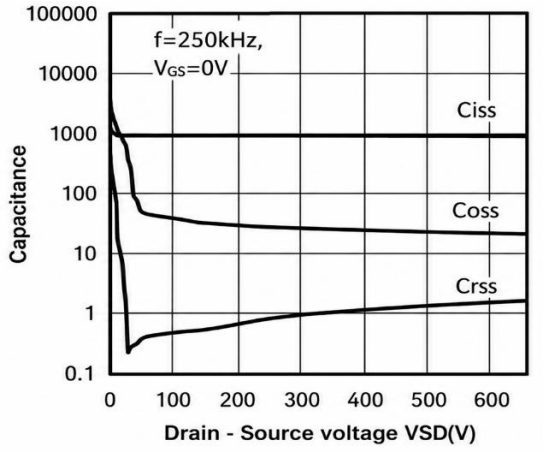


Fig 9. Gate Quantity of electric charger vs. Gate Voltage

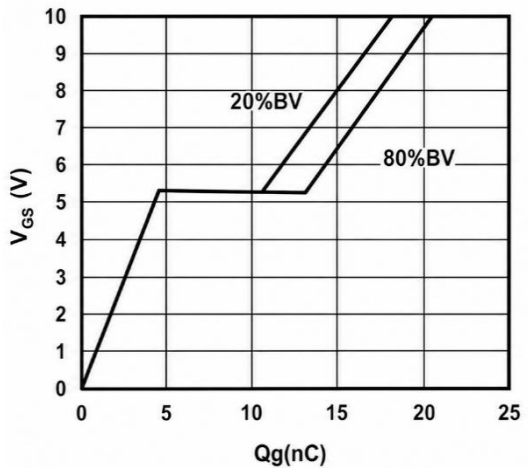


Fig 10. Drain Current Derating

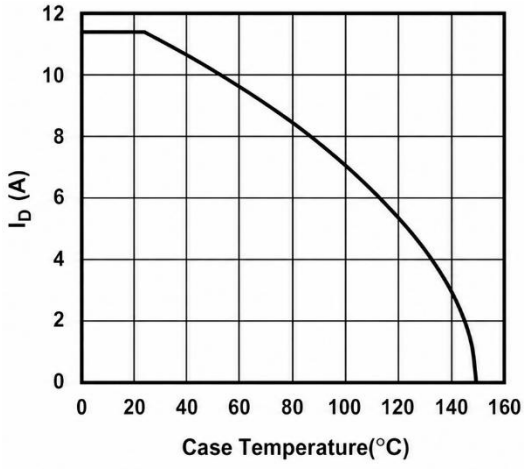


Fig 11. Power Dissipation vs. Temperature

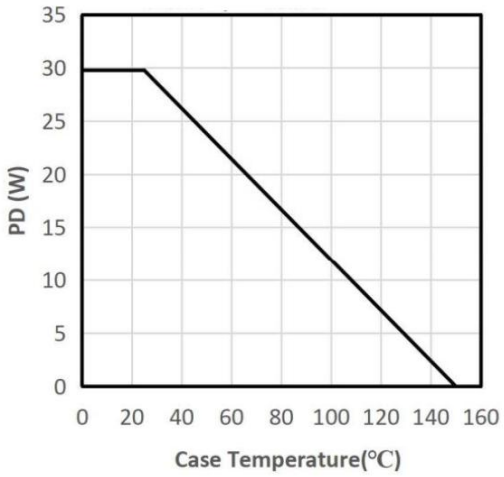
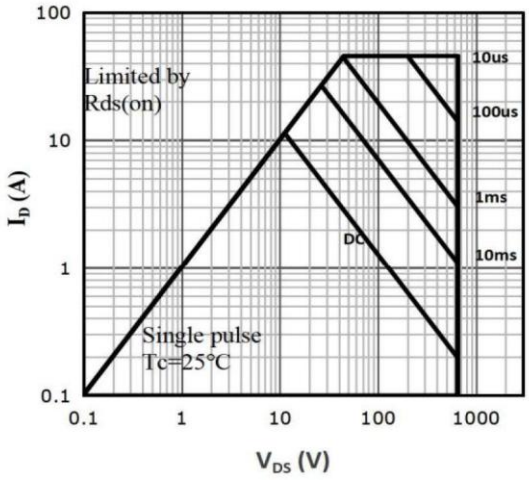
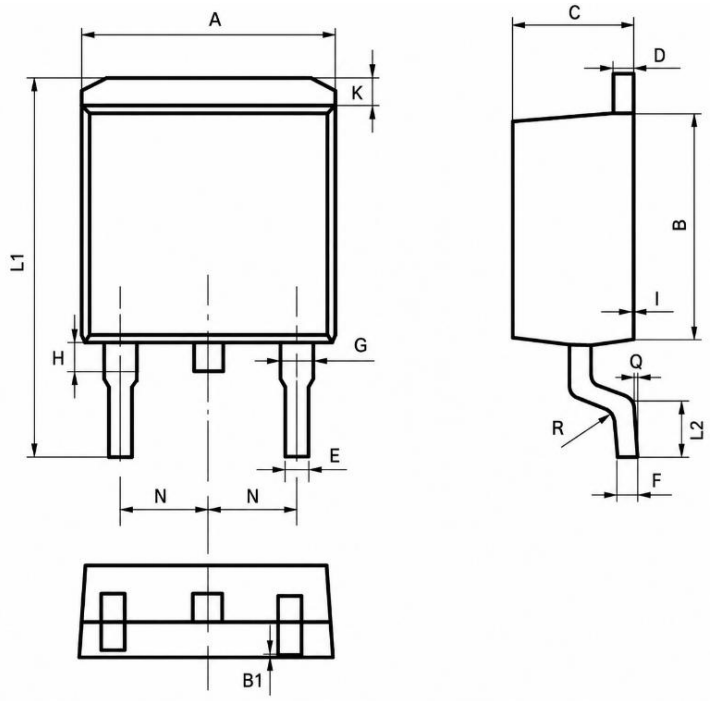


Fig 12. Safe Operating Area



PACKAGE INFORMATION

Dimension in TO-252 (Unit: mm)



Symbol	Min.	Max.
A	9.800	10.40
B	8.900	9.500
B1	0	0.100
C	4.400	4.800
D	1.160	1.370
E	0.700	0.950
F	0.300	0.600
G	1.070	1.470
H	1.300	1.800
K	0.950	1.370
L1	14.50	16.50
L2	1.600	2.300
I	0	0.2
Q	0°	8°
R	0.4	
N	2.390	2.690

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