DESCRIPTION

The AM95N06D-Q is available in TO-252 Packages.

VDS	RDSON	ID
60V	7mΩ	95A

APPLICATIONS

- Valves control
- Solenoids control
- Lighting

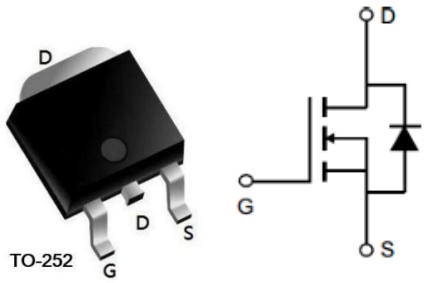
ORDERING INFORMATION

Package Type	Part Number	
TO-252 AEC-Q101 SPQ: 2,500pcs/Reel	D	AM95N06D-Q
Note	Q: AEC-Q101 Qualified	
AiT provides all RoHS products		

FEATURE

- VDS = 60V, ID = 95A
- $R_{DS(ON)}$ < 7.0mΩ @ V_{GS}=10V
- Special process technology for high ESD capability
- High density cell design for lower Rdson
- 175°C operating temperature
- Good stability and uniformity with high EAS
- AEC Q101 qualified
- 100% UIS TESTED !
- 100% DVDS TESTED !

PIN DESCRIPTION



TO-252

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

ABSOLUTE MAXIMUM RATINGS

T_C = 25°C, unless otherwise specified.

V_{GS}, Gate-Source Voltage		±20V
V_{DS}, Drain-Source Voltage		60V
I_D, Drain Continuous-Continuous	T_C=25℃	95A
I_{DM} (1), Drain Current-Pulsed		380A
P_D, Maximum Power Dissipation at T_C=25℃		330W
E_{AS} (2), Single Pulse Avalanche Energy		260mJ
T_{STG}, Storage Temperature Range		-55℃~+175℃
T_J, Operating Junction Temperature Range		-55℃~+175℃
$R_{\theta JC}$, Thermal Resistance, Junction-to-Case		0.45℃/W
$R_{\theta JA}$, Thermal Resistance, Junction-to-Ambient		62.5℃/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.

(1) Repetitive Rating: Pulse width limited by maximum junction temperature.

(2) EAS condition :T j=25℃,VDD=20V,VG=10V, L=0.3mH, Rg=25Ω.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
OFF Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS} =±20V, V_{GS}=0V	-	-	±100	nA
ON Characteristics						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS}=V_{DS}, I_{DS}=25mA	2	3	4	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=30A	-	6	7	mΩ
Pulse width tp≤300μs, δ≤2%						
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=30V, V_{GS}=0V, f=1MHz	-	3750	-	pF
Output Capacitance	C_{oss}		-	410	-	
Reverse Transfer Capacitance	C_{rss}		-	200	-	
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=30V, I_D=30A, R_{GEN}=3Ω, V_{GS}=10V	-	19	-	ns
Turn-on Rise Time	t_r		-	36	-	
Turn-Off Delay Time	$t_{d(off)}$		-	45	-	
Turn-Off Fall Time	t_f		-	24	-	
Total Gate Charge	Q_g	V_{DS}=30V, I_D=30A, V_{GS}=10V	-	67	-	nC
Gate-Source Charge	Q_{gs}		-	16	-	
Gate-Drain Charge	Q_{gd}		-	18	-	
Drain-Source Diode Characteristics						
Drain Forward Voltage	V_{SD}	I_S=10A, V_{GS}=0V	-	-	1.20	V

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Output Characteristics

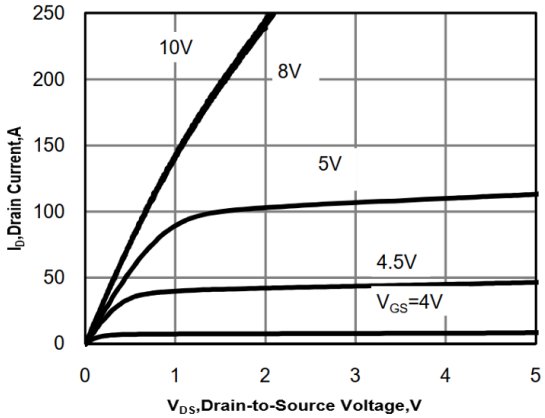


Fig 2. Transfer Characteristics

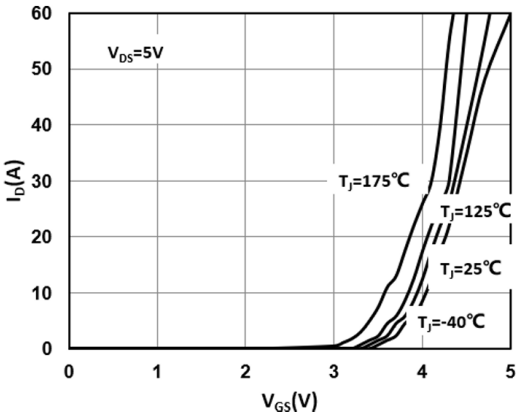
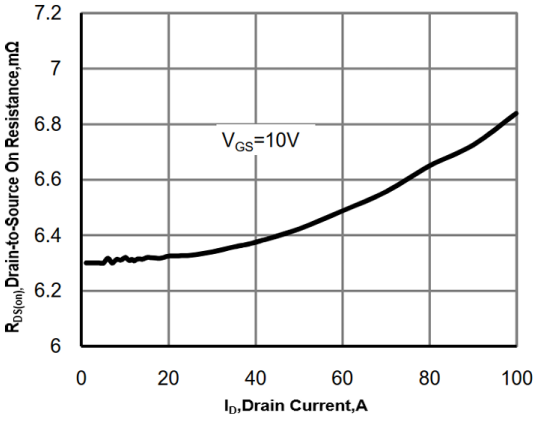


Fig 3. On-Resistance vs. I_D and V_{GS}



a

Fig 4. On-Resistance vs. Junction Temperature

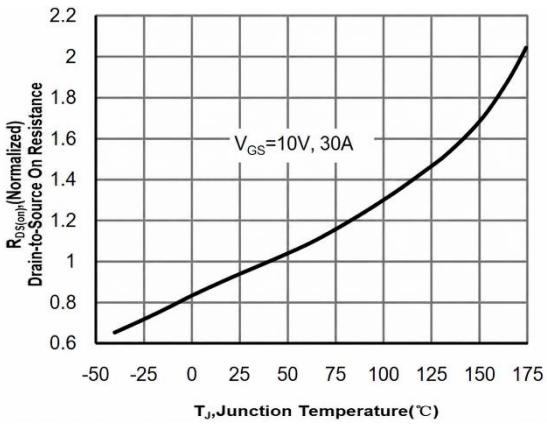


Fig 5. On-Resistance vs. V_{GS}

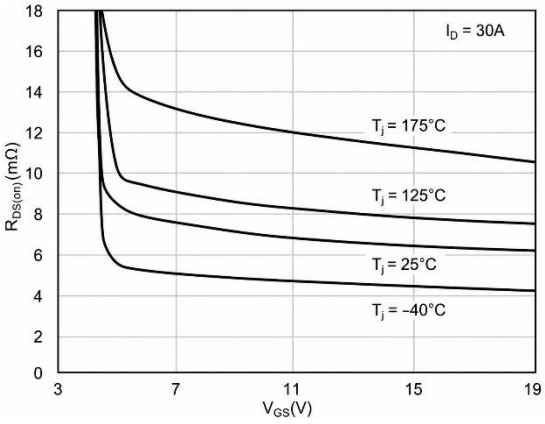


Fig 6. Body Diode Forward Voltage

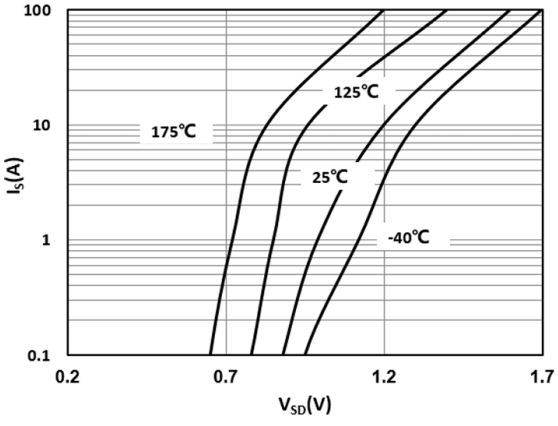


Fig 7. Gate-Charge Characteristics

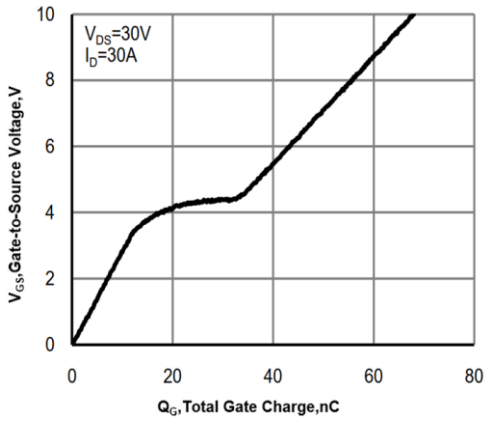


Fig 8. Capacitance Characteristics

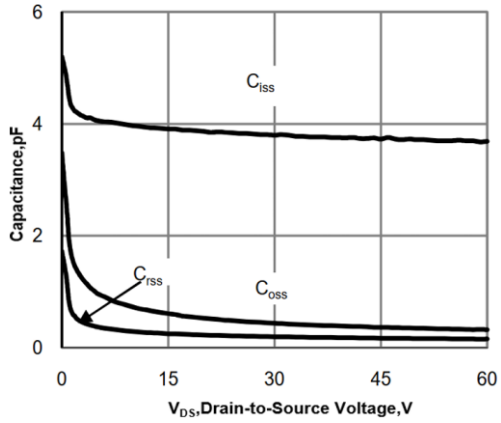


Fig 9. Maximum Forward Biased Safe Operation Area

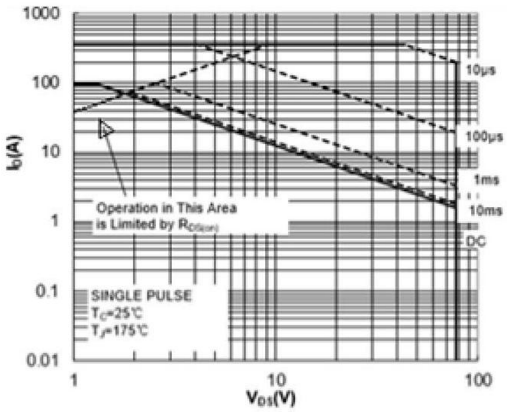


Fig 10. Single Pulse Power Rating Junction-to-Ambient

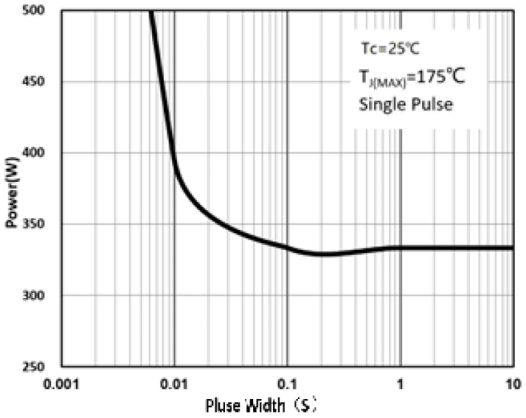
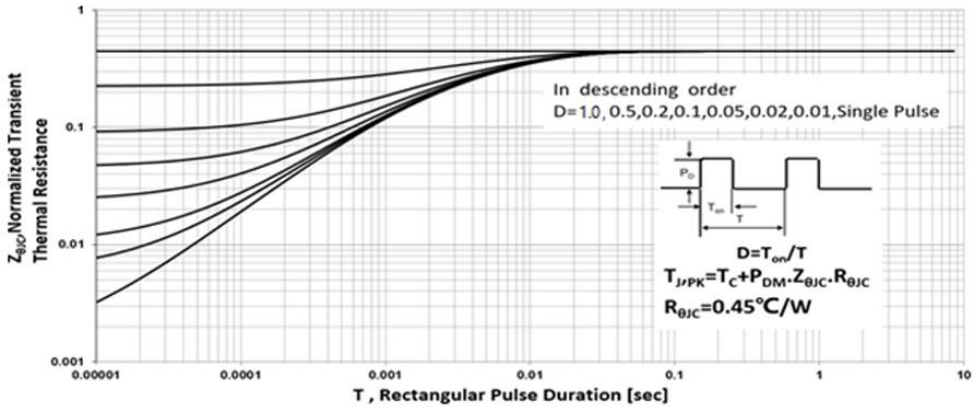
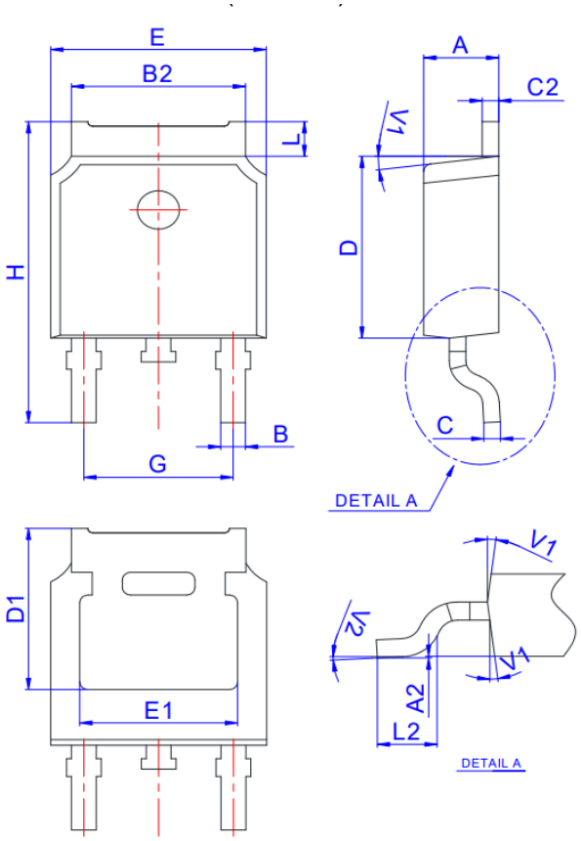


Fig 11. Normalized Maximum Transient Thermal Impedance



PACKAGE INFORMATION

Dimension in TO-252 (Unit: mm)



Symbol	Min.	Max.
A	2.100	2.500
A2	0.000	0.100
B	0.660	0.860
B2	5.180	5.480
C	0.400	0.600
C2	0.440	0.580
D	5.900	6.300
D1	5.300REF	
E	6.400	6.800
E1	4.630	-
G	4.470	4.670
H	9.500	10.70
L	1.090	1.210
L2	1.350	1.650
V1	7”	
V2	0°	6°

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