DESCRIPTION

The AM36PS10LD is available in TO-252 Package.

VDSS	RDSON	ID
-100V	36mΩ	-35A

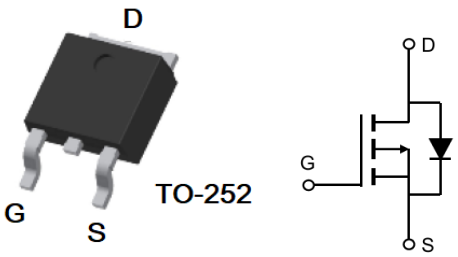
APPLICATIONS

- Load Switch
- PWM Application
- Power Management

FEATURE

- -100V, -35A
- $R_{DS(ON)}$ Typ.= 36mΩ @ V_{GS} = -10V
- $R_{DS(ON)}$ Typ.= 45mΩ @ V_{GS} = -4.5V
- Advanced Split Gate Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- 100% UIS TESTED!
- 100% ΔVds TESTED!

PIN DESCRIPTION



Pin #	Symbol	Function
1	G	Gate
2,4	D	Drain
3	S	Source

ORDERING INFORMATION

Package Type	Part Number	
TO-252 SPQ: 2,500pcs/Reel	D	AM36PS10LDR
Note	R: Tape & Reel	
AiT provides all RoHS products		

ABSOLUTE MAXIMUM RATINGS

T_J = 25°C, unless otherwise specified.

V_{DS}, Drain-to-Source Voltage		-100V
V_{GS}, Gate-to-Source Voltage		±20V
I_D, Continuous Drain Current	T_C = 25°C	-35A
	T_C = 100°C	-21A
I_{DM}, Pulsed Drain Current (1)		-140A
E_{AS}, Single Pulsed Avalanche Energy (2)		110mJ
P_D, Power Dissipation	T_C = 25°C	104W
$R_{\theta JC}$, Thermal Resistance, Junction-to-Case		1.2℃/W
T_{STG}, Storage Temperature Range		-55℃ ~ +150℃
T_J, Junction Temperature Range		-55℃ ~ +150℃

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) E_{AS} condition: Starting T_J=25°C, V_{DD}= -50V, V_G= -10V, R_G=25ohm, L=0.5mH, I_{AS}= -21A

ELECTRICAL CHARACTERISTICS

T_J = 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}= 0V, I_D = 250μA	-100	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= -80V, V_{GS}=0V	-	-	-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}= V_{GS}, I_D = -250μA	-1.4	-2.0	-2.6	V
Static Drain-Source ON-Resistance *	$R_{DS(ON)}$	V_{GS} = -10V, I_D = -12A	-	36	47	mΩ
		V_{GS} = -4.5V, I_D = -8A	-	45	59	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}= -25V, V_{GS}=0V, f=1.0MHZ	-	1230	-	pF
Output Capacitance	C_{oss}		-	620	-	
Reverse Transfer Capacitance	C_{rss}		-	44	-	
Total Gate Charge	Q_g	V_{DS} = -50V , I_D = -15A V_{GS}=0V ~ -10V	-	19	-	nC
Gate-Source Charge	Q_{gs}		-	7	-	
Gate-Drain(“Miller”) Charge	Q_{gd}		-	4	-	
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	V_{DD}= -50V, I_D = -15A R_{GEN}=6Ω, V_{GS}= -10V	-	12	-	ns
Turn-On Rise Time	t_r		-	55	-	
Turn-Off Delay Time	$t_{d(off)}$		-	40	-	
Turn-Off Fall Time	t_f		-	75	-	
Drain-Source Diode Characteristics and Max Ratings						
Maximum Continuous Drain to Source Diode Forward Current	I_S	-	-	-	-35	A
Maximum Pulsed Drain to Source Diode Forward Current	I_{SM}	-	-	-	-140	A
Drain to Source Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S= -12A	-	-	-1.2	V
Body Diode Reverse Recovery Time	t_{rr}	I_F= -15A, di/dt = 100A/μs	-	50	-	ns
Body Diode Reverse Recovery Charge	Q_{rr}		-	125	-	nC

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Gate Charge Test Circuit & Waveform

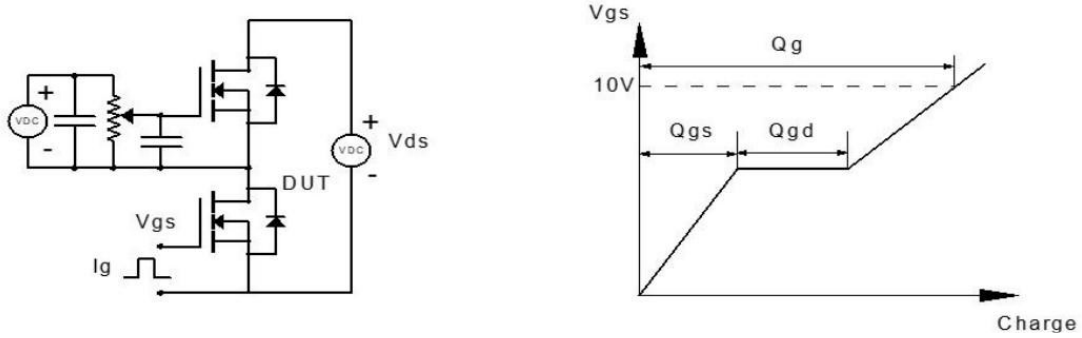


Fig 2. Resistive Switching Test Circuit & Waveform

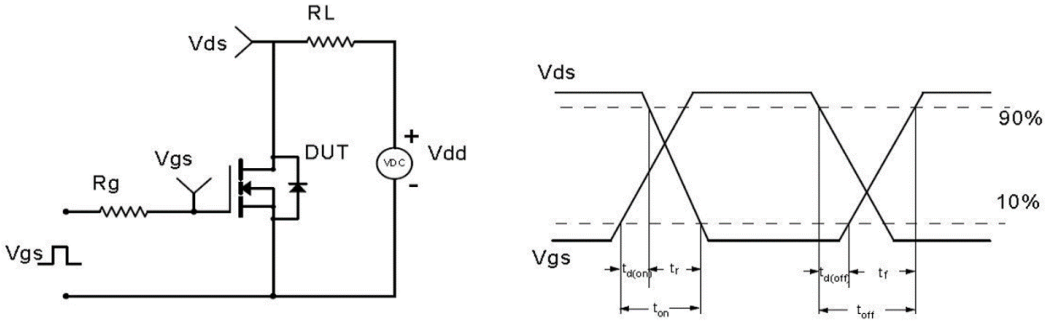


Fig 3. Unclamped Inductive Switching Test Circuit& Waveform

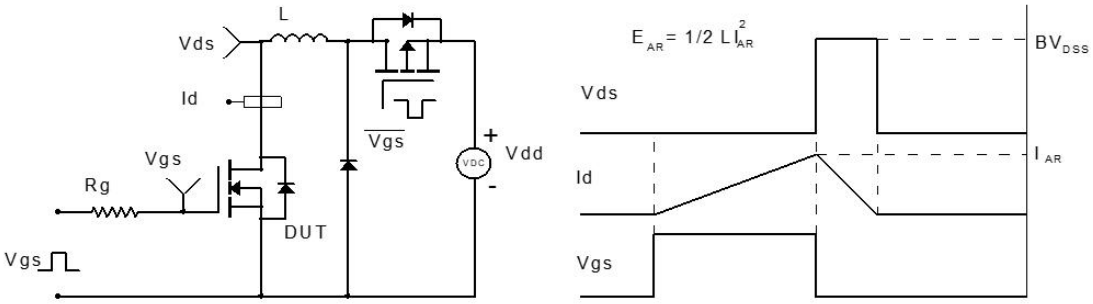
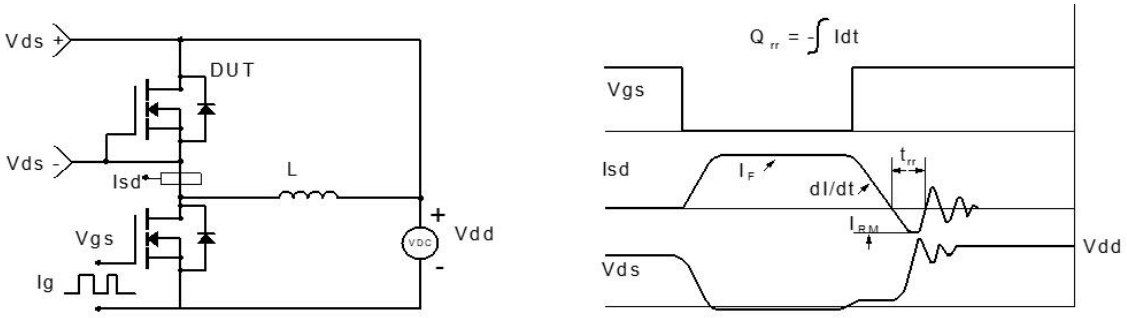
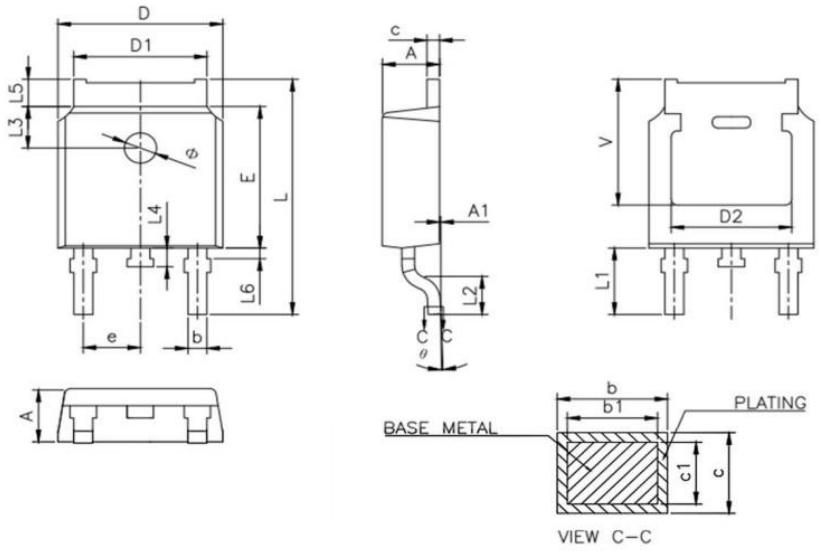


Fig 4. Diode Recovery Test Circuit & Waveform



PACKAGE INFORMATION

Dimension in TO-252 (Unit: mm)



Symbol	Millimeters	
	Min.	Max.
A	2.200	2.400
A1	0.000	0.127
b	0.660	0.860
b1	0.650	0.810
c	0.470	0.600
c1	0.460	0.560
D	6.500	6.700
D1	5.100	5.460
D2	4.830 REF.	
E	6.000	6.200
e	2.186	2.386
L	9.800	10.400
L1	2.900 REF.	
L2	1.400	1.600
L3	1.800 REF.	
L4	0.600	1.000
L5	0.900	1.250
L6	0.150	0.750
Φ	1.100	1.300
θ	0°	8°
V	5.400 REF.	

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