DESCRIPTION

The AM40N15 is available in TO-252 Package.

VDSS	RDSON	ID
150V	45mΩ	40A

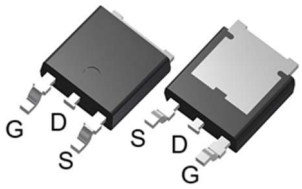
FEATURE

- 150V/40A
  $R_{DS(ON)}$ = 45 mΩ (typ.) @ V_{GS} = 10V
- 100 % Avalanche Tested
- Reliable and Rugged

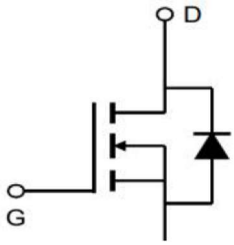
APPLICATIONS

- Power Switching Application
- LED Drive Power
- Power Management for DC/DC

PIN DESCRIPTION



TO-252



ORDERING INFORMATION

Package Type	Part Number	
TO-252 SPQ: 2,500pcs/Reel	D	AM40N15DVR
Note	R: Tape & Reel V: Halogen free Package	
AiT provides all RoHS products		

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

ABSOLUTE MAXIMUM RATINGS

T_C = 25°C, unless otherwise specified.

V_{DSS}, Drain-Source Voltage	150V
V_{GSS}, Gate-Source Voltage	±20V
I_D, Drain Current-Continuous @ T_C = 25 °C	40A
I_{DM}, Drain Current-Pulsed	100A
T_J, Operating Junction Temperature Range	-50℃ ~ 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.

ELECTRICAL CHARACTERISTICS

T_C = 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
OFF Characteristics						
Drain-Source Breakdown Voltage	B_{VDSS}	V_{GS}= 0 V, I_D = -250 μA	150	-	-	V
Drain-Source Leakage Current	I_{DSS}	V_{DS} = 120 V, V_{GS} = 0 V, T_J = 25 ℃	-	-	1	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0 V	-	-	±100	nA
ON Characteristics						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250 μA	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS} = 10V, I_D = 15 A	-	45	52	mΩ
DRAIN-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS} = 0V , I_S = 10 V	-	-	1.2	V

* Pulse text: Pulse width ≤ 300μs, Duty Cycle ≤ 2%.
* Drain Current, Power Dissipation and $R_{DS(ON)}$ calculated by TO-252 package Type.

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Drain Current

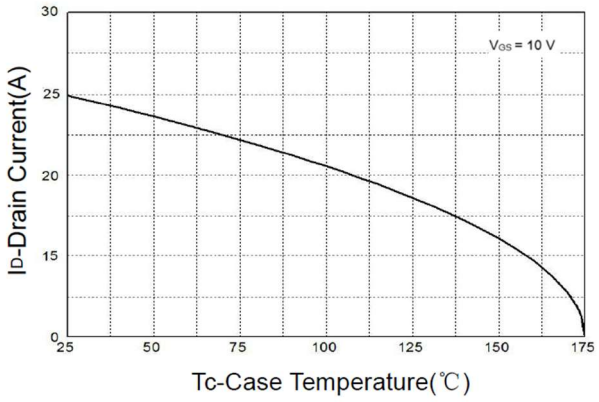


Fig 2. Output Characteristics

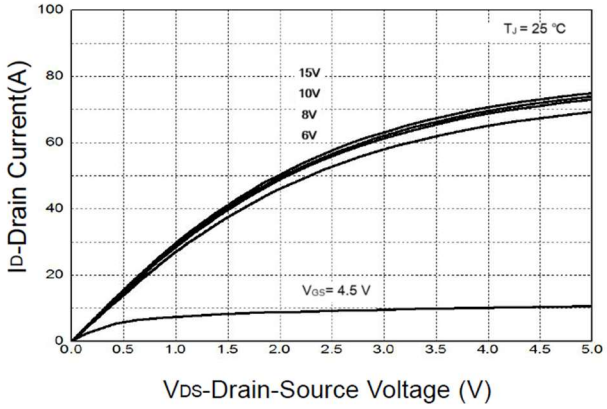


Fig 3. Safe Operation Area

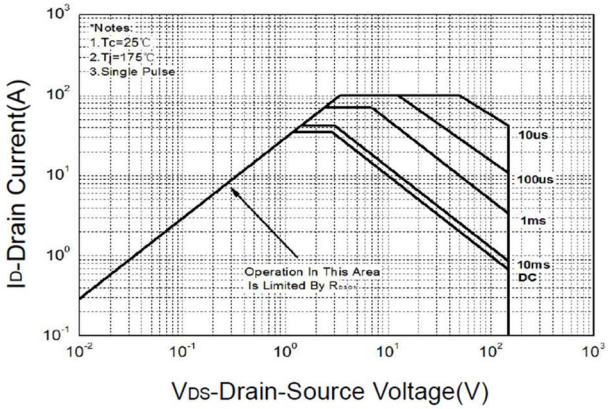


Fig 4. Thermal Transient Impedance, Junction-case

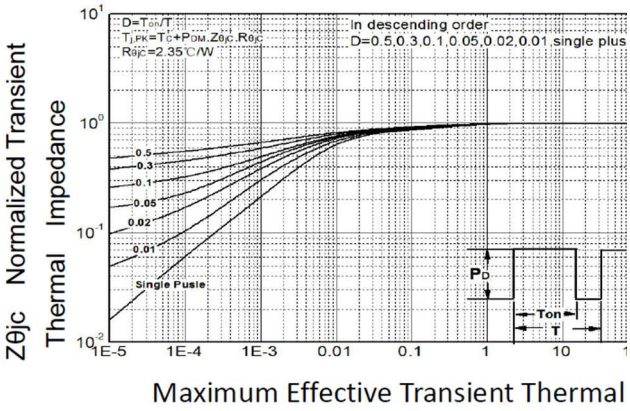


Fig 5. Drain-Source on Resistance

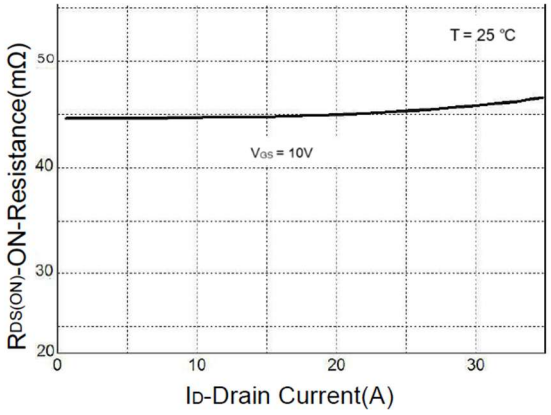


Fig 6. Gate Charge Characteristics

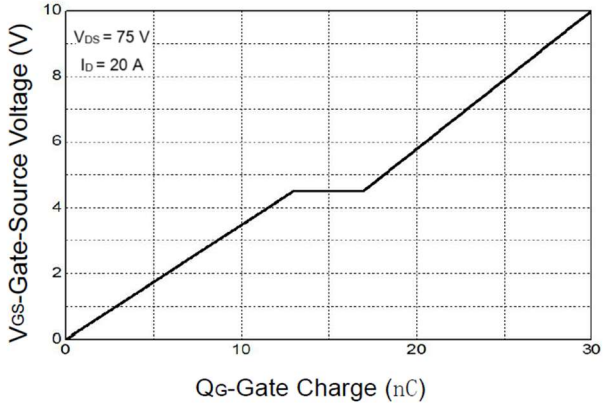


Fig 7. Avalanche Test Circuit

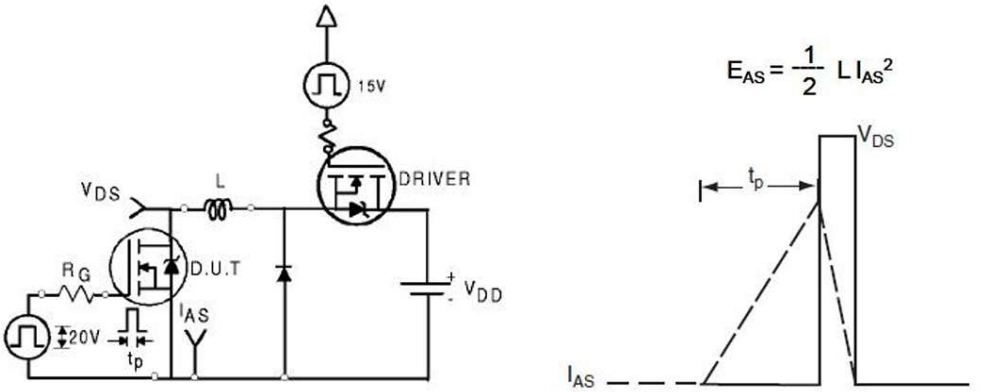
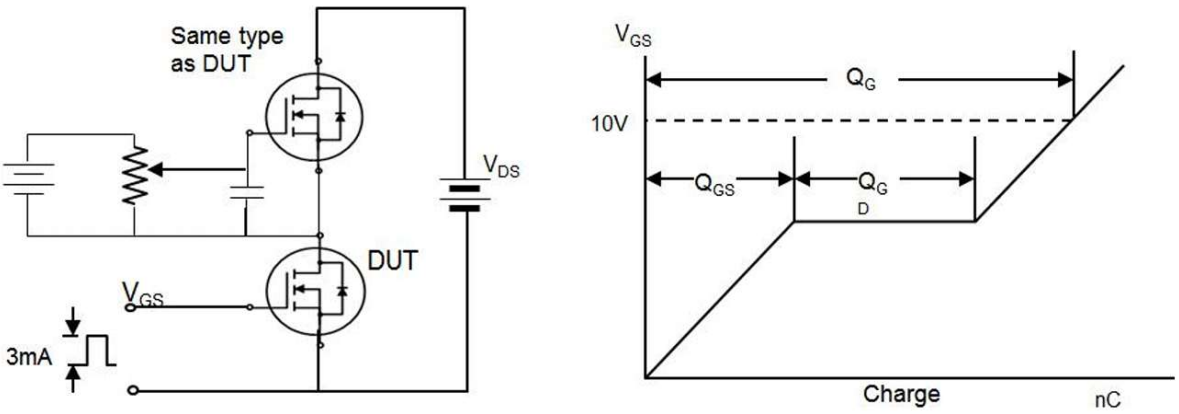
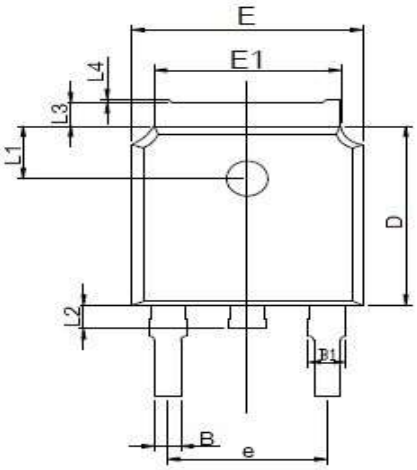


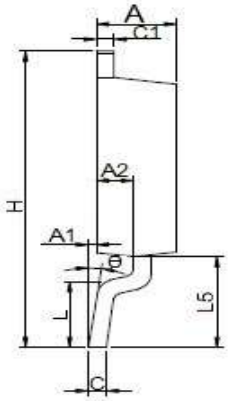
Fig 8. Gate Charge Test Circuit

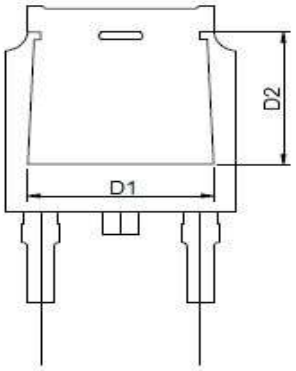


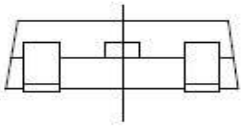
PACKAGE INFORMATION

Dimension in TO-252 (Unit: mm)

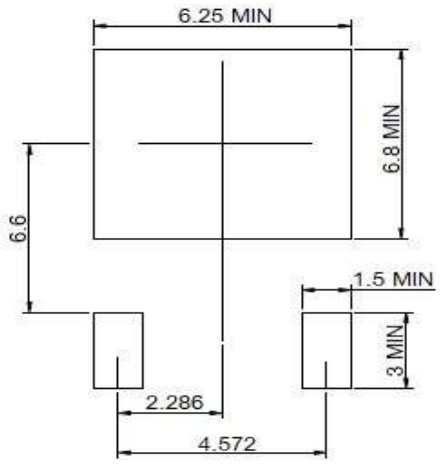








RECOMMENDED LAND PATTERN



Symbol	Millimeter	
	Min.	Max.
A	2.150	2.450
A1	0.050	0.200
A2	0.910	1.220
B	0.660	0.860
B1	0.930	1.230
C	0.400	0.600
C1	0.400	0.600
D	5.950	6.250
D1	4.800	
D2	3.800	
E	6.450	6.750
E1	5.120	5.520
L	1.650	
L1	1.580	1.980
L2	0.600	1.000
L3	0.700	1.000
L4	0.000	0.200
L5	2.800	3.400
H	9.800	10.400
θ	0°	8°
e	4.572 REF	

IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc. integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or server property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.