



DESCRIPTION

AM3443C is available in a SOT-26 package.

ORDERING INFORMATION

Package Type	Part Number	
SOT-26	E6	AM3443CE6R
		AM3443CE6VR
Note	V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products Suffix " V " means Halogen free Package		

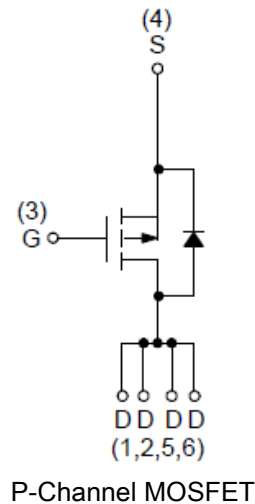
FEATURES

- -20V/-4.3A,
R_{DS(ON)}= 48mΩ(max.) @ V_{GS}=-4.5V
R_{DS(ON)}= 68mΩ(max.) @ V_{GS}=-2.5V
R_{DS(ON)}= 100mΩ(max.) @ V_{GS}=-1.8V
- Super High Dense Cell Design
- Reliable and Rugged
- Lead Free and Green Devices Available (RoHS Compliant)
- Available in SOT-26 Package

APPLICATION

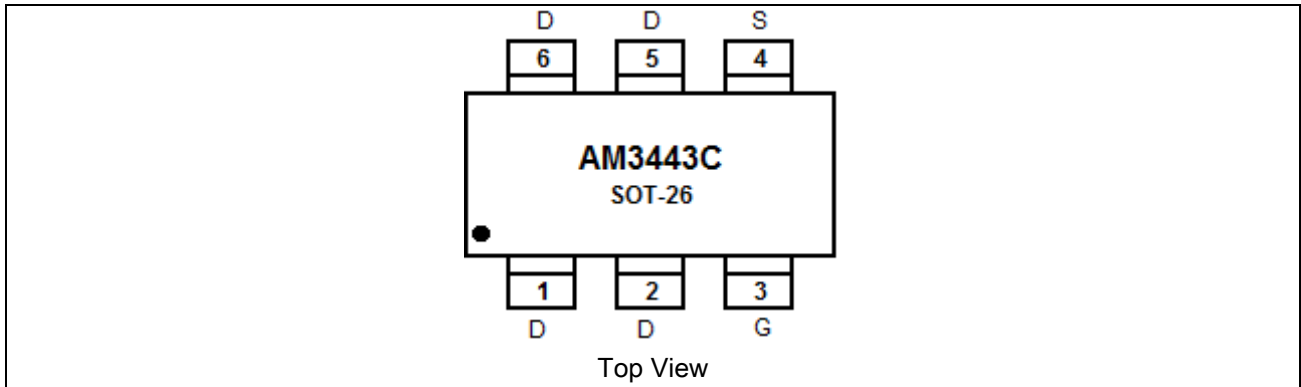
- Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems.

TYPICAL APPLICATION





PIN DESCRIPTION



Pin #	Symbol	Function
1,2,5,6	D	Drain
3	G	Gate
4	S	Source



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise noted

V _{DSS} , Drain-Source Voltage		-20V
V _{GSS} , Gate-Source Voltage		±12V
I _D [*] , Continuous Drain Current (V _{GS} =-4.5V)	T _A =25°C	-4.3A
	T _A =100°C	-2.6A
I _{DM} [*] , 300us Pulsed Drain Current (V _{GS} =-4.5V)		-17A
I _S [*] , Diode Continuous Forward Current		-1.3A
T _J , Maximum Junction Temperature		150°C
T _{STG} , Storage Temperature Range		-55°C~150°C
P _D [*] , Maximum Power Dissipation	T _A =25°C	1.6W
	T _A =100°C	0.6W
R _{θJA} [*] , Thermal Resistance-Junction to Ambient	t ≤ 10s	80°C/W
	Steady State	95°C/W

Stress beyond above listed "Absolute Maximum Ratings" may lead permanent damage to the device. These are stress ratings only and operations of the device at these or any other conditions beyond those indicated in the operational sections of the specifications are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE: *Surface Mounted on 1in2 pad area, t ≤ 10sec.



ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	B _{VDSS}	V _{GS} =0V, I _{DS} =-250uA	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V T _J =85°C			-1	μA
					-30	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =-250uA	-0.5	-0.75	-1	V
Gate Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V			±100	nA
Drain-Source On-state Resistance	R _{DS(ON)} NOTE1	V _{GS} =-4.5V, I _{DS} =-4.3A		38	48	mΩ
		V _{GS} =-2.5V, I _{DS} =-2.5A		52	68	
		V _{GS} =-1.8V, I _{DS} =-1A		70	100	
Diode Characteristics						
Diode Forward Voltage	V _{SD} NOTE1	I _{SD} =-1.3A, V _{GS} =0V		-0.8	-1.2	V
Reverse Recovery Time	t _{rr} NOTE2	I _{SD} =-4.3A,		13		ns
Reverse Recovery Charge	Q _{rr} NOTE2	di _{SD} /dt=100A/us		4.5		nC
Dynamic Characteristics NOTE2						
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, F=1MHz		6		Ω
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, Frequency=1.0MHz		1000		pF
Output Capacitance	C _{oss}			120		
Reverse Transfer Capacitance	C _{rss}			100		
Turn-on Delay Time	t _{d(ON)}		V _{DD} =-10V, R _L =10Ω, I _{DS} =-1A, V _{GEN} =-4.5V, R _G =6Ω		10	
Turn-on Rise Time	t _r			18		
Turn-off Delay Time	t _{d(OFF)}			40		
Turn-off Fall Time	t _f			20		
Gate Charge Characteristics NOTE2						
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-4.5V, I _{DS} =-4.3A		8.8		nC
Gate-Source Charge	Q _{gs}			1.8		
Gate-Drain Charge	Q _{gd}			2.2		

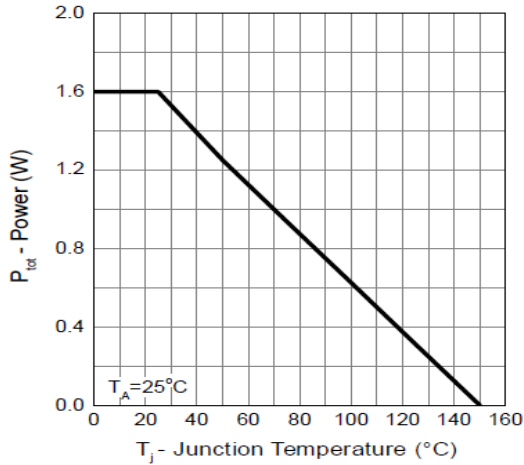
NOTE1: Pulse test; pulse width≤300us, duty cycle≤2%.

NOTE2: Guaranteed by design, not subject to production testing.

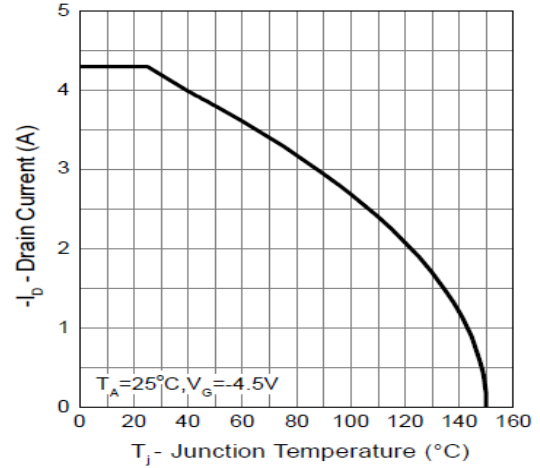


TYPICAL PERFORMANCE CHARACTERISTICS

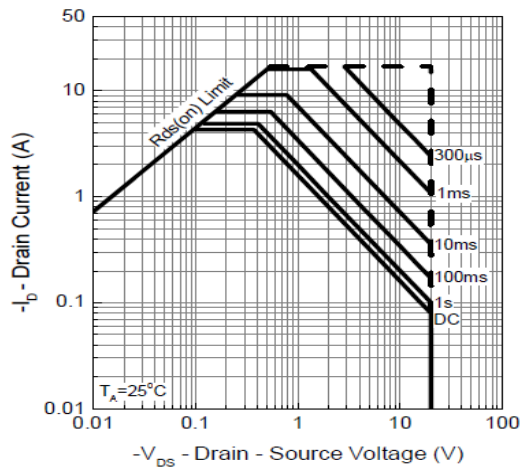
1. Power Dissipation



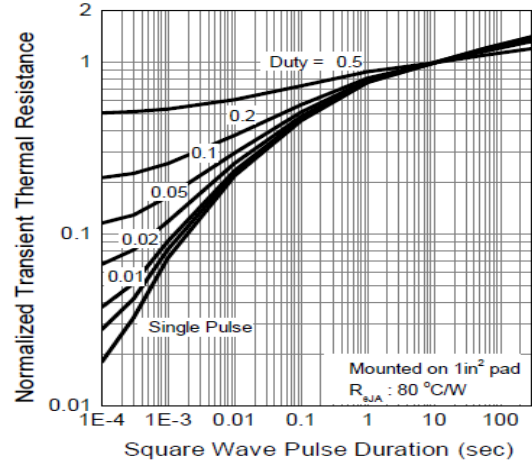
2. Drain Current



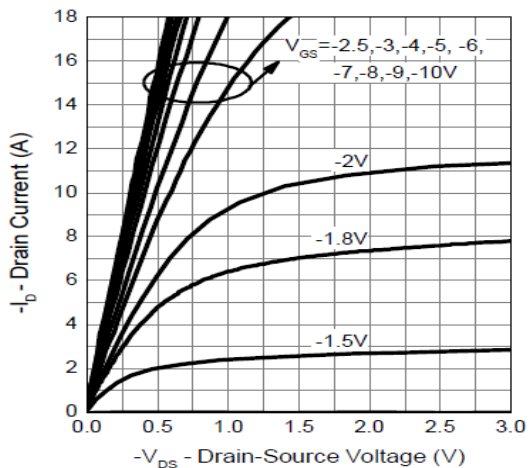
3. Safe Operation Area



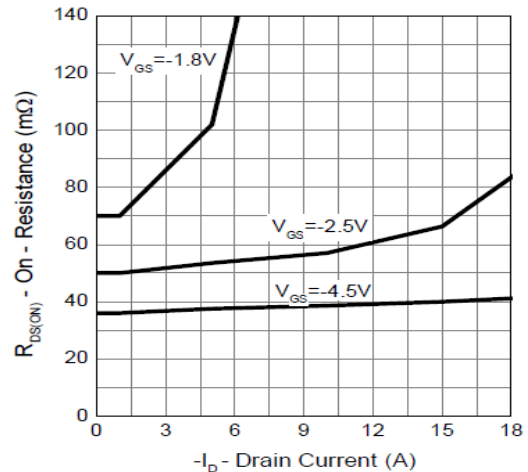
4. Thermal Transient Impedance



5. Output Characteristics

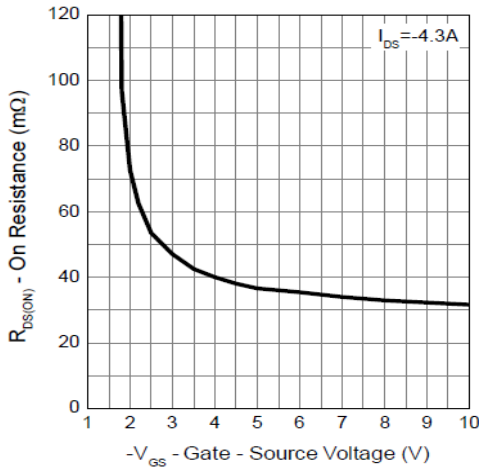


6. Drain-Source On Resistance

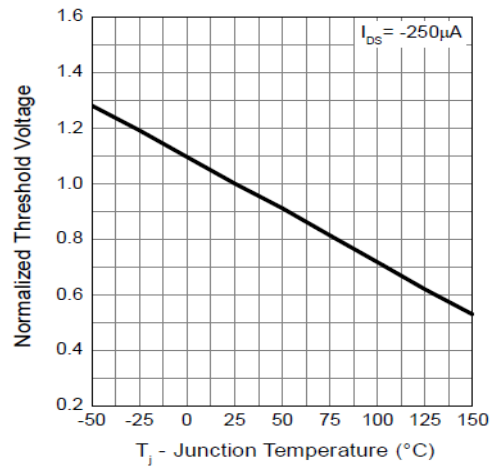




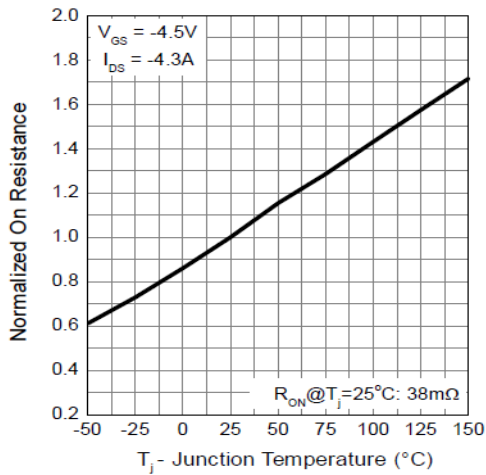
7. Gate-Source On Resistance



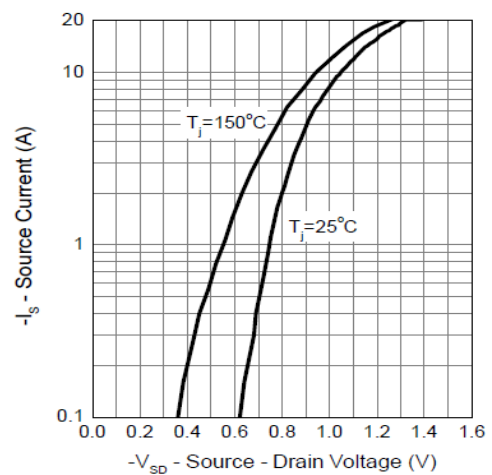
8. Gate Threshold Voltage



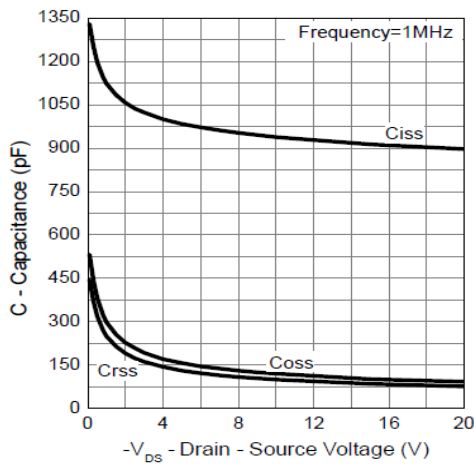
9. Drain-Source On Resistance



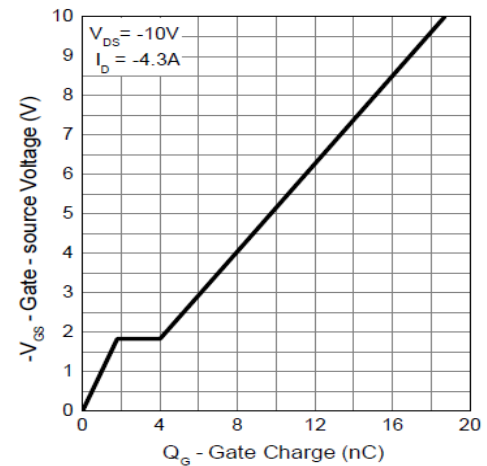
10. Source-Drain Diode Forward



11. Capacitance



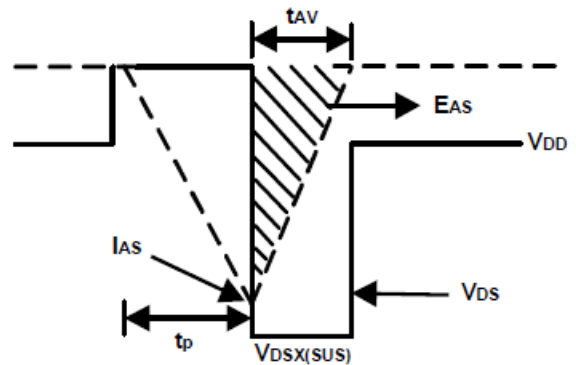
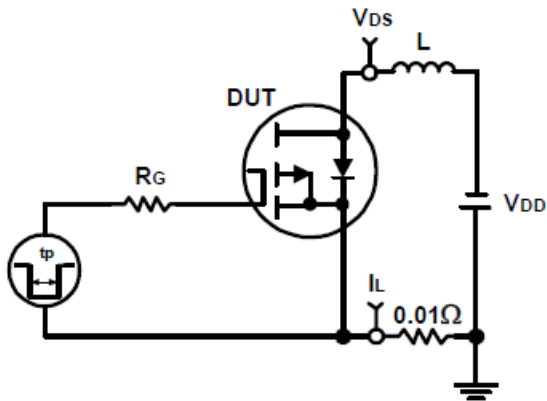
12. Gate Charge



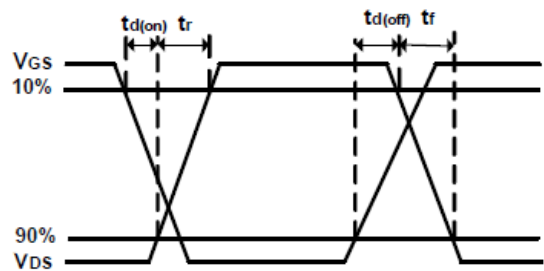
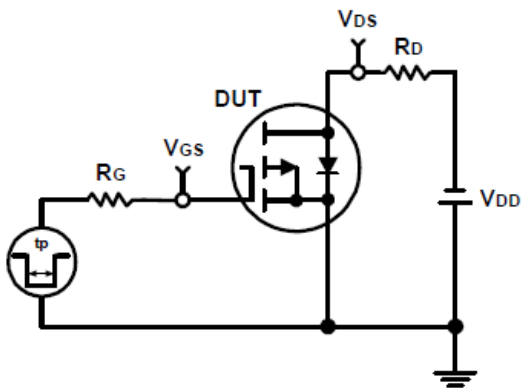


TEST CIRCUIT

1. Avalanche Test Circuit and Waveforms



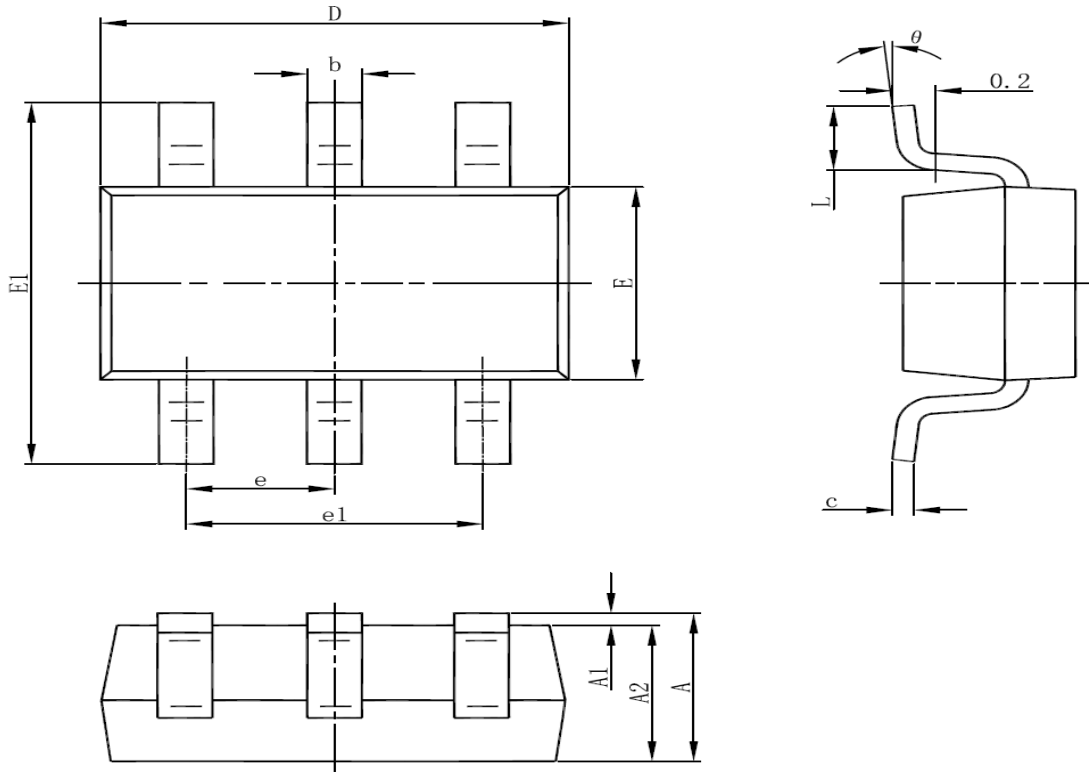
2. Switching Time Test Circuit and Waveforms





PACKAGE INFORMATION

Dimension in SOT-26 Package (Unit: mm)



SYMBOL	MIN	MAX
A	-	1.250
A1	0.000	0.150
A2	0.900	1.300
b	0.300	0.500
c	0.080	0.220
D	2.700	3.100
E	1.400	1.800
E1	2.600	3.000
e	0.950(BSC)	
e1	1.900(BSC)	
L	0.300	0.600
θ	0°	8°



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