AS1308EW

N-Channel SMD MOSFET ESD Protection

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	132mΩ@10V	1.4A
	144mΩ@4.5V	
	185mΩ@2.5V	

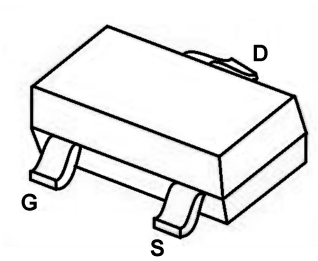
Feature

- High density cell design for ultra low on-resistance
- High Power and current handing capability
- Surface-mounted package
- ESD protected

Application

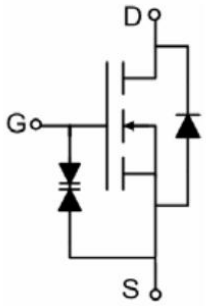
- Smartphone, Tablet
- DC/DC Converter
- Boost Converter
- Load Switch, OVP Switch

Package

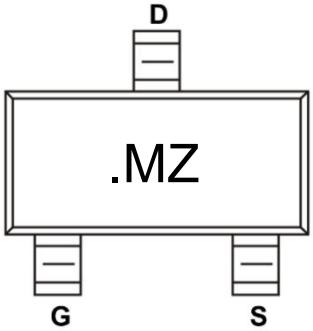


SOT-323

Circuit diagram



Marking



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Absolute maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	1.4	A
Pulsed Drain Current[1)]	I_{DM}	6	A
Power Dissipation[2)]	P_D	0.4	W
Thermal Resistance from Junction to Ambient[2)]	$R_{\theta JA}$	312	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics (T_a=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±20	μA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.6		1.5	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =1.4A			132	mΩ
		V_{GS} =4.5V, I_D =1A			144	
		V_{GS} =2.5V, I_D =0.5A			185	
Dynamic characteristics[3)]						
Forward Transconductance	g_{FS}	V_{DS} =10V, I_D =1.4A		2.4		S
Input Capacitance	C_{iss}	V_{DS} =15V,V_{GS} =0V,f =1MHz		180		pF
Output Capacitance	C_{oss}			18		
Reverse Transfer Capacitance	C_{rss}			16		
Total Gate Charge	Q_g	V_{DS} =15V,V_{GS} =4.5V, I_D =1.4A		2.5		nC
Gate-Source Charge	Q_{gs}			0.8		
Gate-Drain Charge	Q_{gd}			0.5		
Turn-on delay time	$t_{d(on)}$	V_{DS} =15V, V_{GS} =4.5V, I_D =1.4A R_G=4.5Ω		4.1		nS
Turn-on rise time	t_r			4.2		
Turn-off delay time	$t_{d(off)}$			17		
Turn-off fall time	t_f			5.3		
Source-Drain Diode characteristics						
Diode Forward Current	I_S				1.4	A
Diode Forward voltage	V_{SD}	V_{GS} =0V, I_S=1.1A			1.2	V
Reverse Recovery Time	trr	I_S =1.4A, di/dt = 100A/μs		5.6		nS
Reverse Recovery Charge	Qrr			1.8		nC

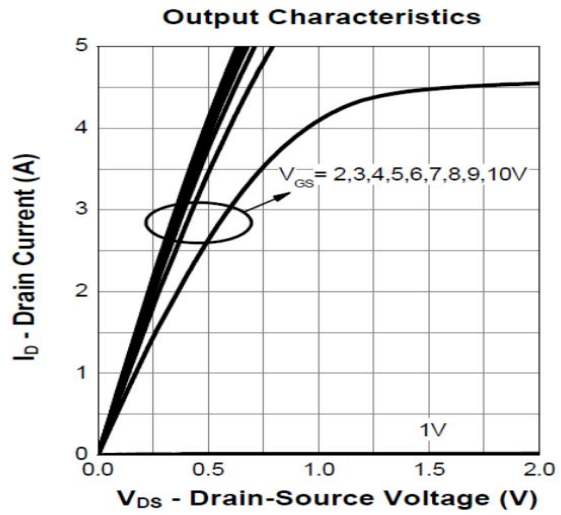
Notes:

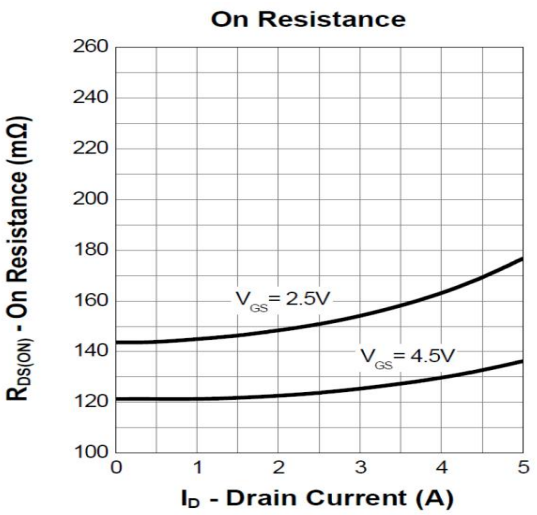
1) Pulse Test: Pulse Width ≤ 100μs, Duty Cycle ≤2%,Repetitive rating,pulse width limited by junction temperature $T_{J(MAX)}$=150℃.

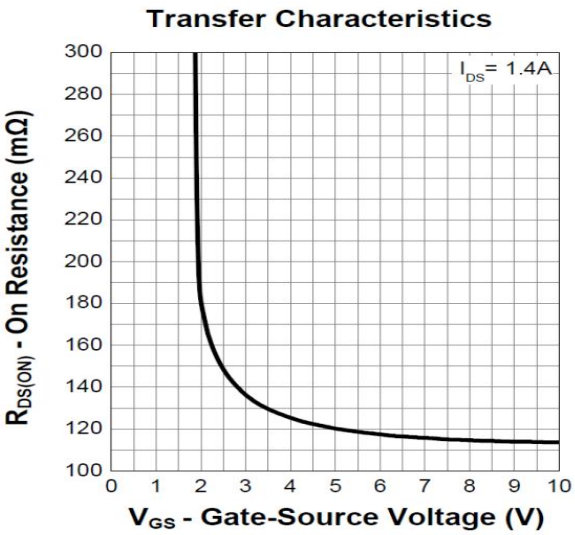
2) Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate in still air.

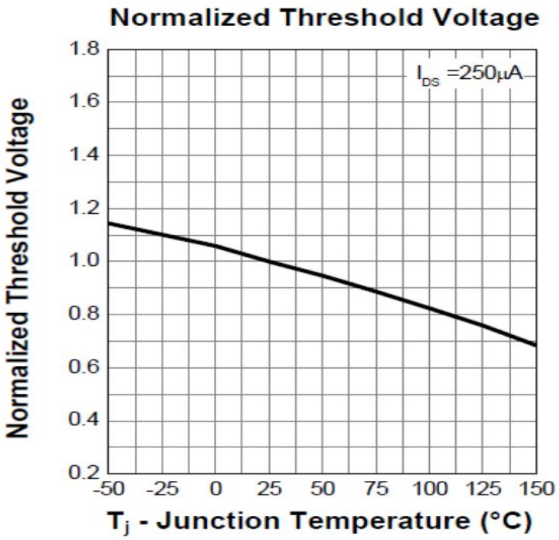
3) Guaranteed by design, not subject to production testing.

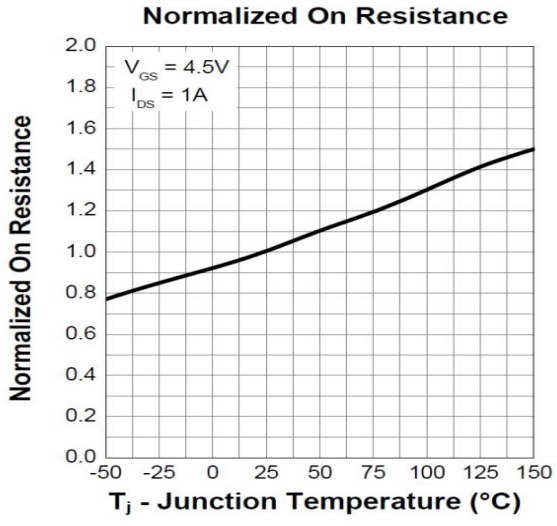
Typical Characteristics

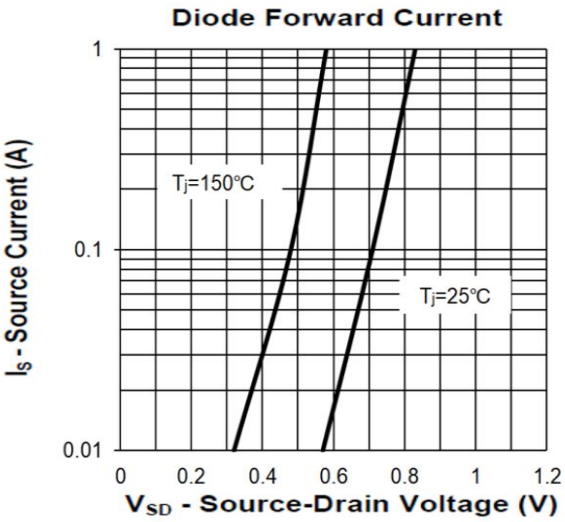












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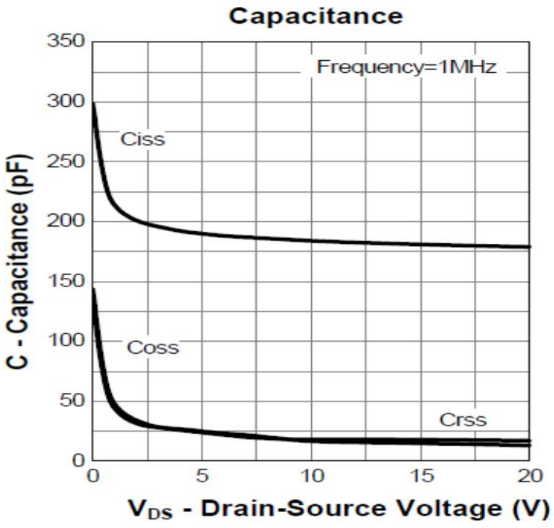
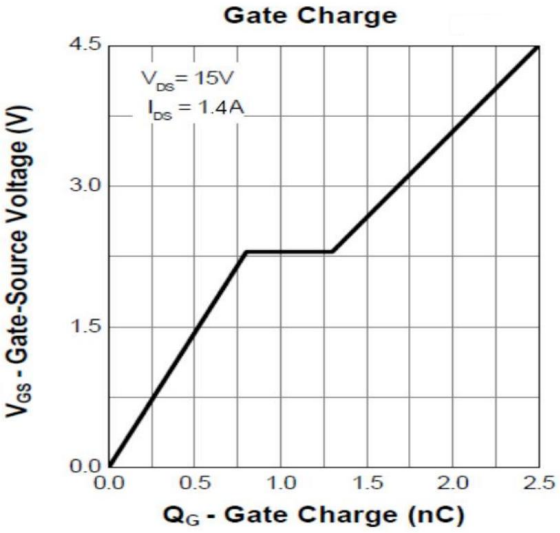
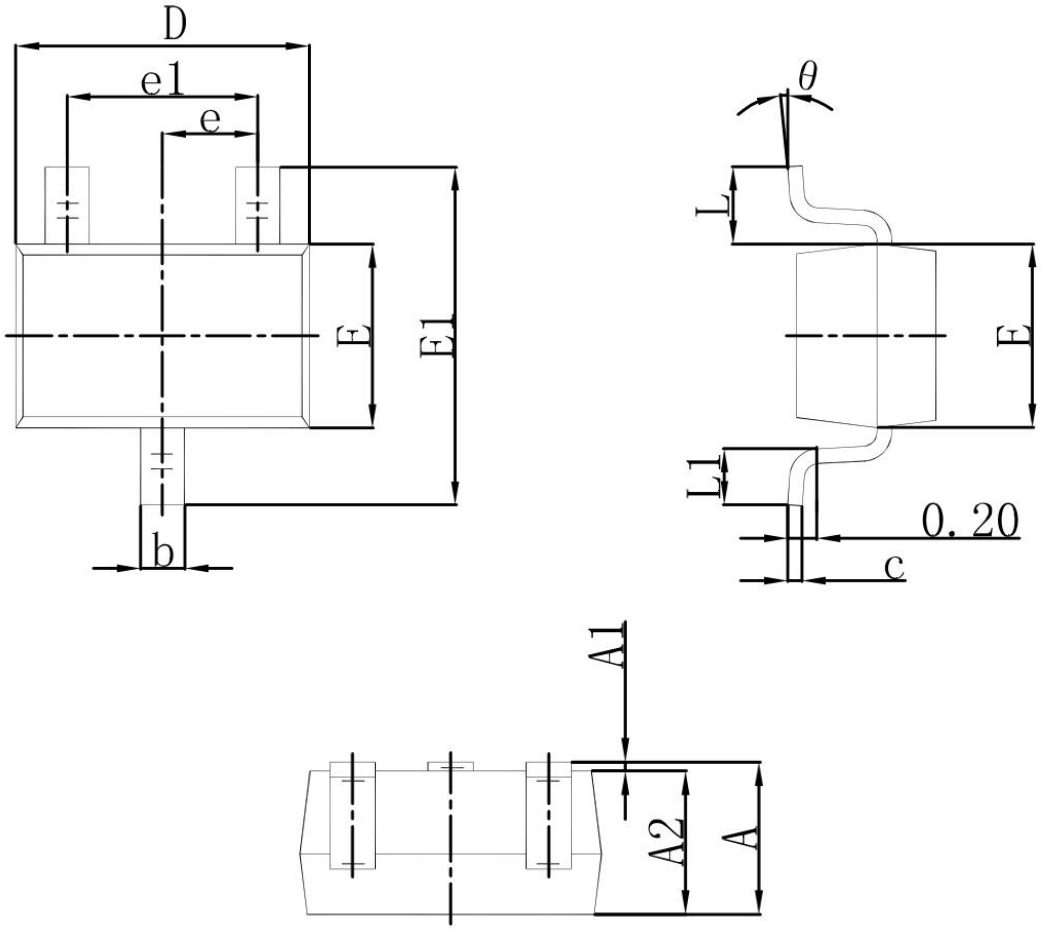




SOT-323 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.800	1.100	0.032	0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.032	0.039
b	0.150	0.400	0.006	0.016
c	0.050	0.250	0.002	0.016
D	1.800	2.200	0.071	0.087
E	1.150	1.350	0.045	0.053
E1	2.000	2.450	0.079	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.200	0.460	0.008	0.018
θ	0°	8°	0°	8°