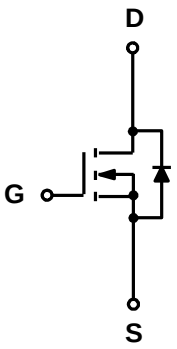
AP10N15S

N-Channel Enhancement Mosfet

DATA SHEET

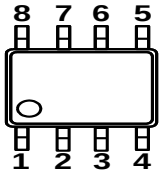
Features

- 150V,10A
  $R_{DS(ON)}$ <52mΩ @V_{GS}=10V TYP:42 mΩ
  $R_{DS(ON)}$ <62mΩ @V_{GS}=6V TYP:48mΩ
- Surface-mounted package
- Advanced trench cell design



Applications

- LCD TV appliances
- LCDM appliances
- High power inverter system



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Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity (PCS)
10N15S	AP10N15S	SOP-8	-	-	4000

ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	150	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (T_C =25℃) (1)	I_D	10	A
Continuous Drain Current (T_C=100℃) (1)	I_D	8	A
Pulsed Drain Current (1)	I_{DM}	40	A
Drain Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Case (2)	$R_{\theta JC}$	2.5	℃/W
Thermal Resistance- Junction to Ambient (2)	$R_{\theta JA}$	50	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Notes:

1. Pulse width ≤ 300 μs, duty cycle ≤ 2 %
2. Mounted on Large Heat Sink
3. Limited by bonding wire

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

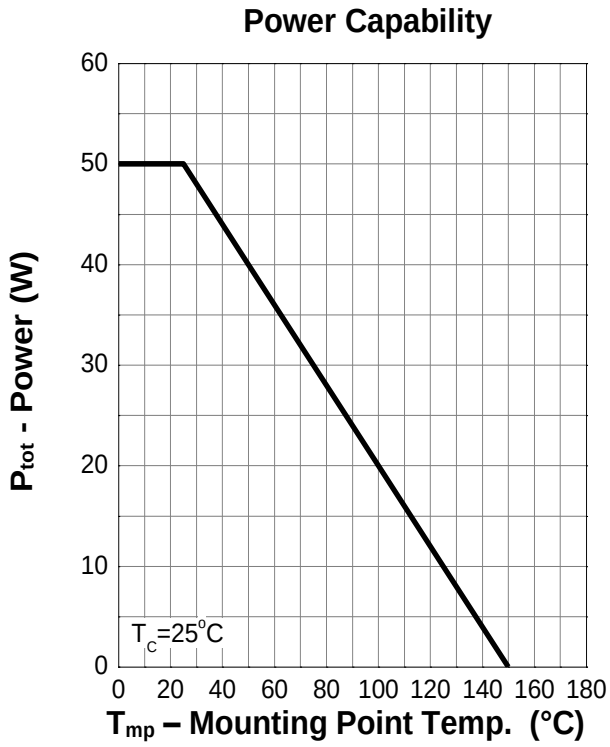
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	150	-	-	V
Zero gate voltage drain current	I_{DSS}	V_{DS} =120V, V_{GS} = 0V	-	-	1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V	-	-	±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	2.0	-	4.0	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =10A	-	42	52	mΩ
		V_{GS} =6V, I_D =6A	-	48	62	mΩ
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS} =75V, V_{GS} =0V, f =1.0MHz	-	1232	-	pF
Output Capacitance	C_{oss}		-	81	-	
Reverse Transfer Capacitance	C_{rss}		-	32	-	
Switching characteristics						
Turn-on delay time	$t_{d(on)}$	V_{DD}=75V, I_D=10A, R_G=4.5Ω, V_G=10V	-	11	-	ns
Turn-on rise time	t_r		-	40	-	
Turn-off delay time	$t_{d(off)}$		-	19	-	
Turn-off fall time	t_f		-	32	-	
Total Gate Charge	Qg	V_{DS}=75V, I_D=10A, V_{GS}=10V	-	25.8	-	nC
Gate-Source Charge	Qgs		-	8	-	
Gate-Drain Charge	Qgd		-	8.3	-	
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	T_C=25℃, V_{GS} =0V, I_S=10A	-	-	1.3	V
Diode Forward current	I_S	T_C=25℃	-	-	10	A
Body Diode Reverse Recovery Time	trr	T_C=25℃，IF=4A,di/dt=100A/us		72		ns
Body Diode Reverse Recovery Charge	Qrr	T_C=25℃，IF=4A,di/dt=100A/us		143		uc

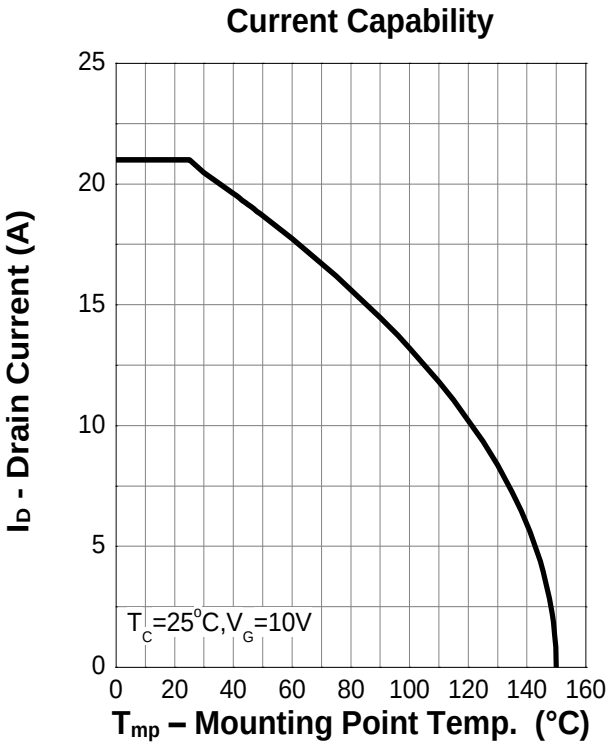
Notes:

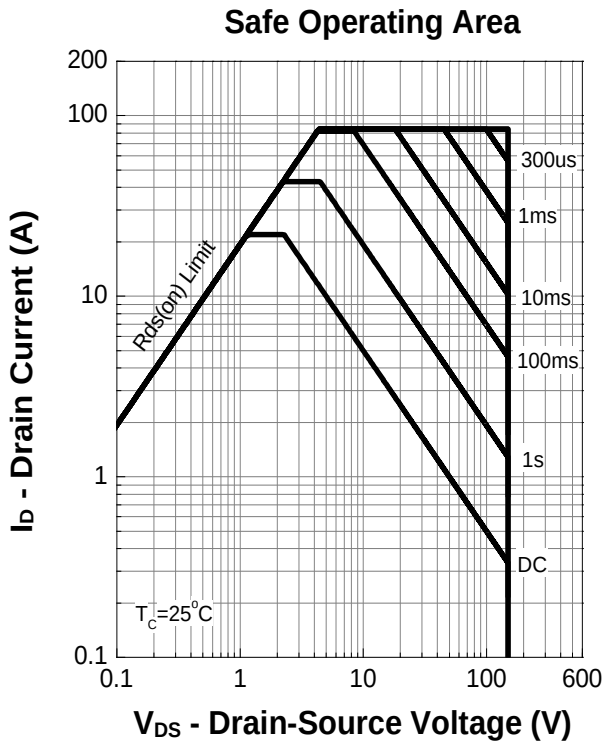
a) Pulse test ; pulse width ≤ 300 μs, duty cycle ≤ 2%

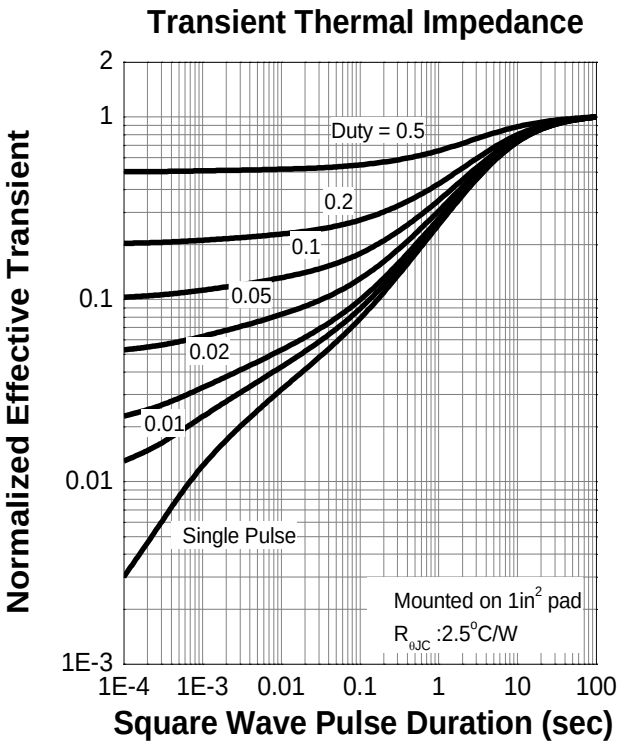
b) Guaranteed by design, not subject to production testing

Typical Characteristics

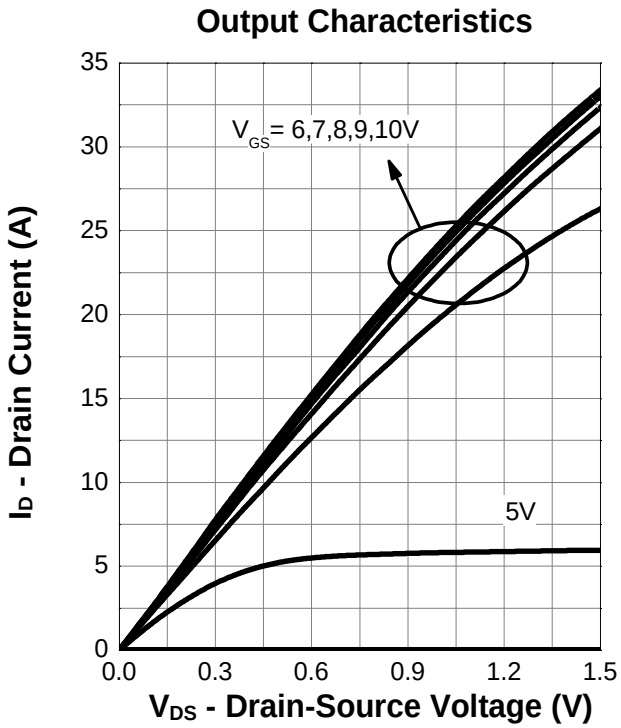


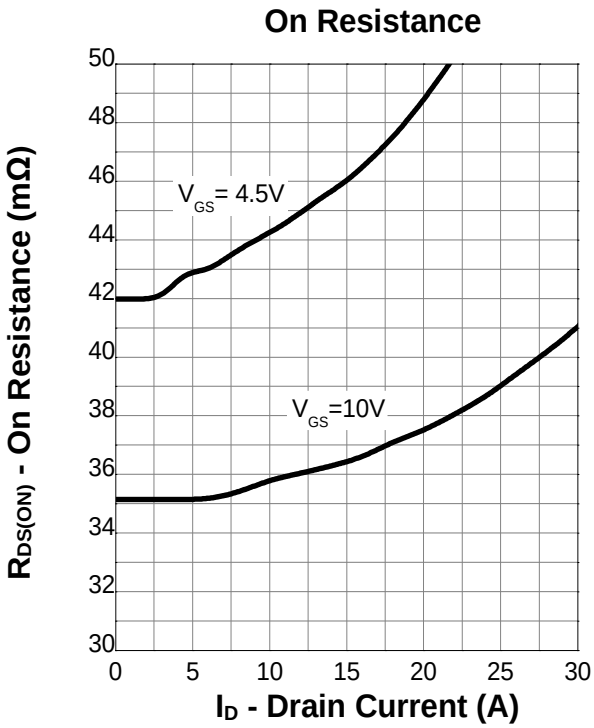


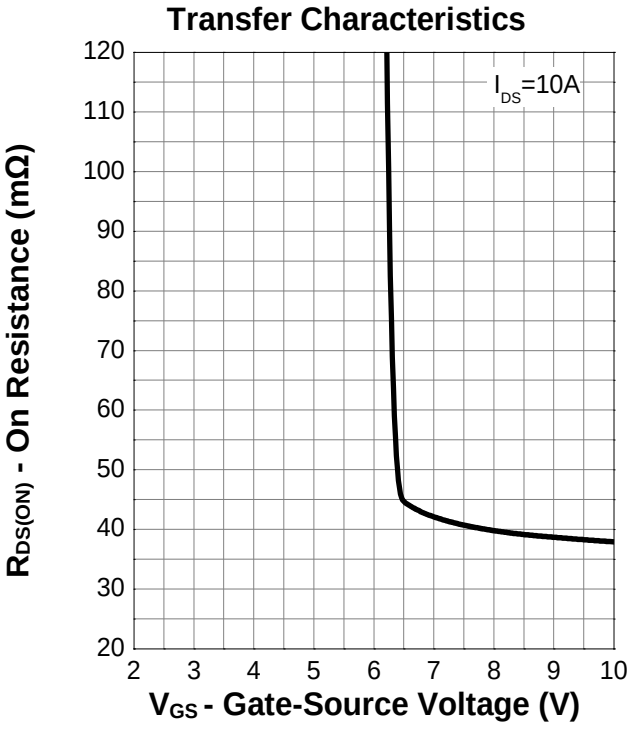


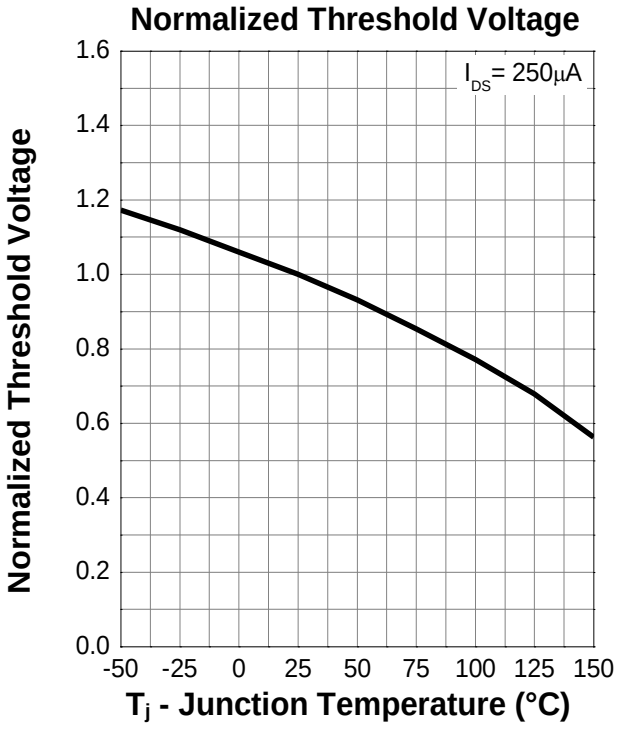


Typical Characteristics (cont.)

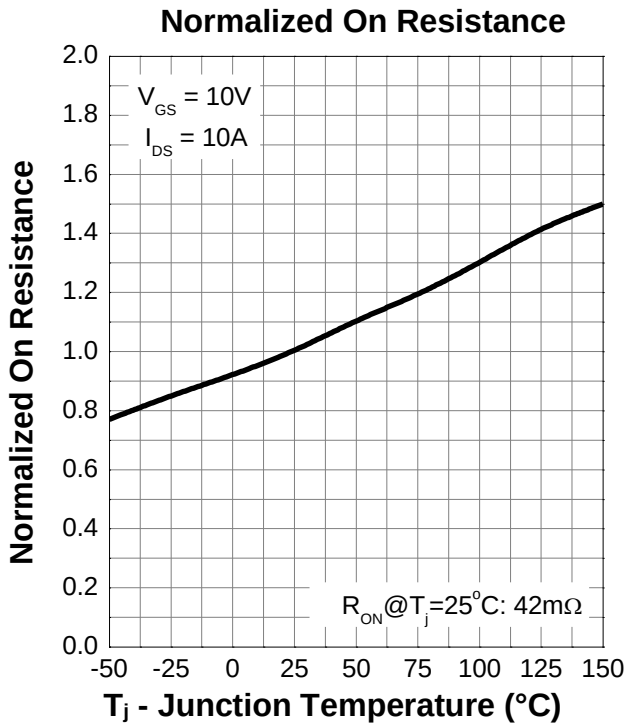


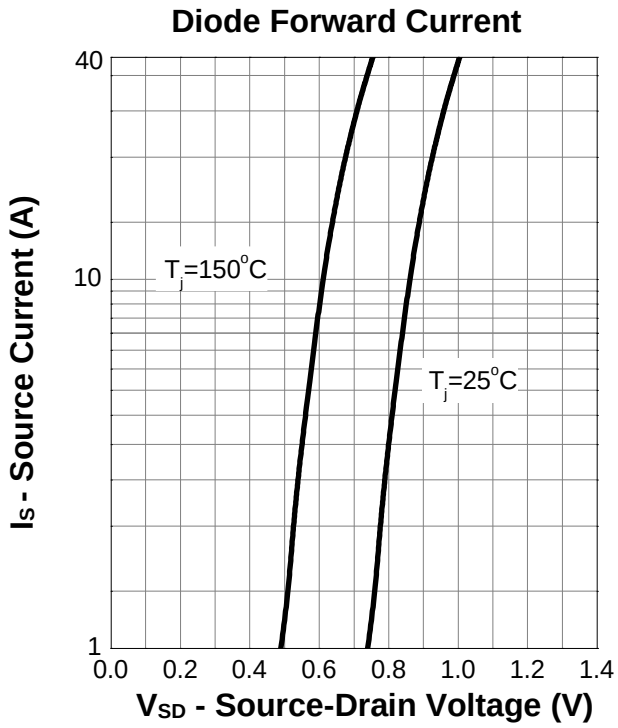


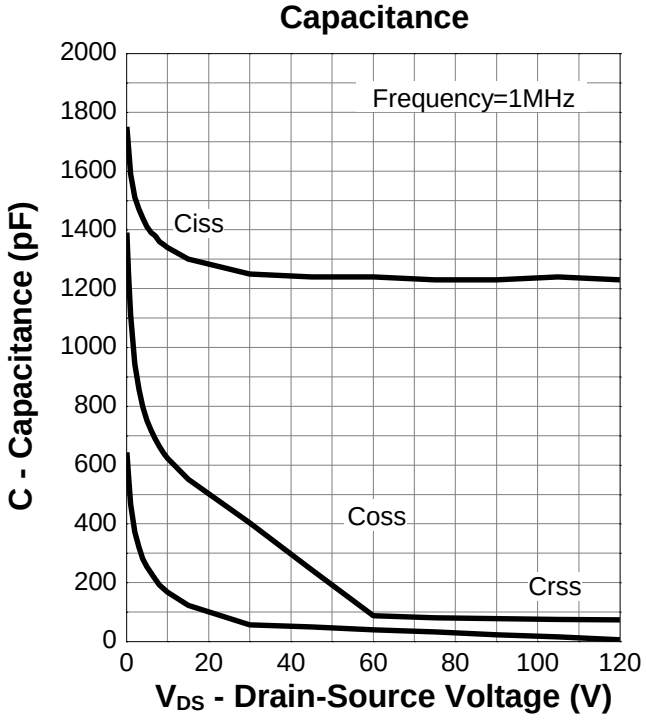


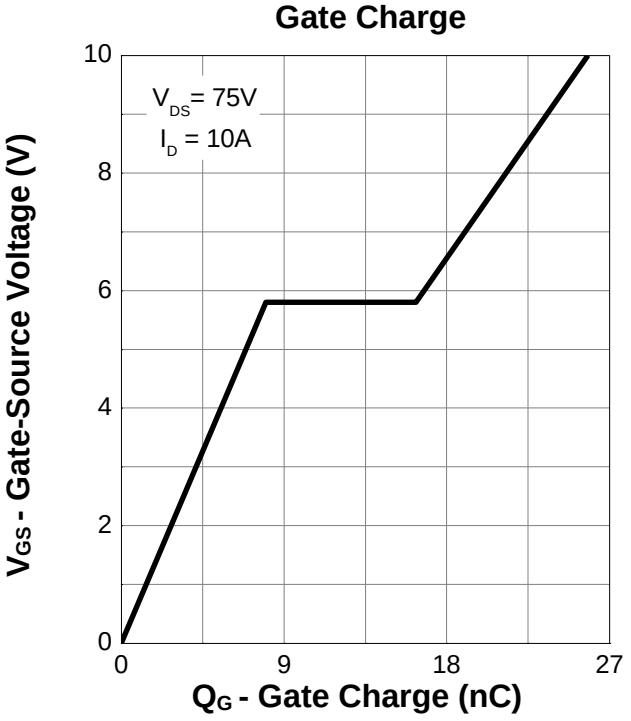


Typical Characteristics (cont.)









Package Dimensions

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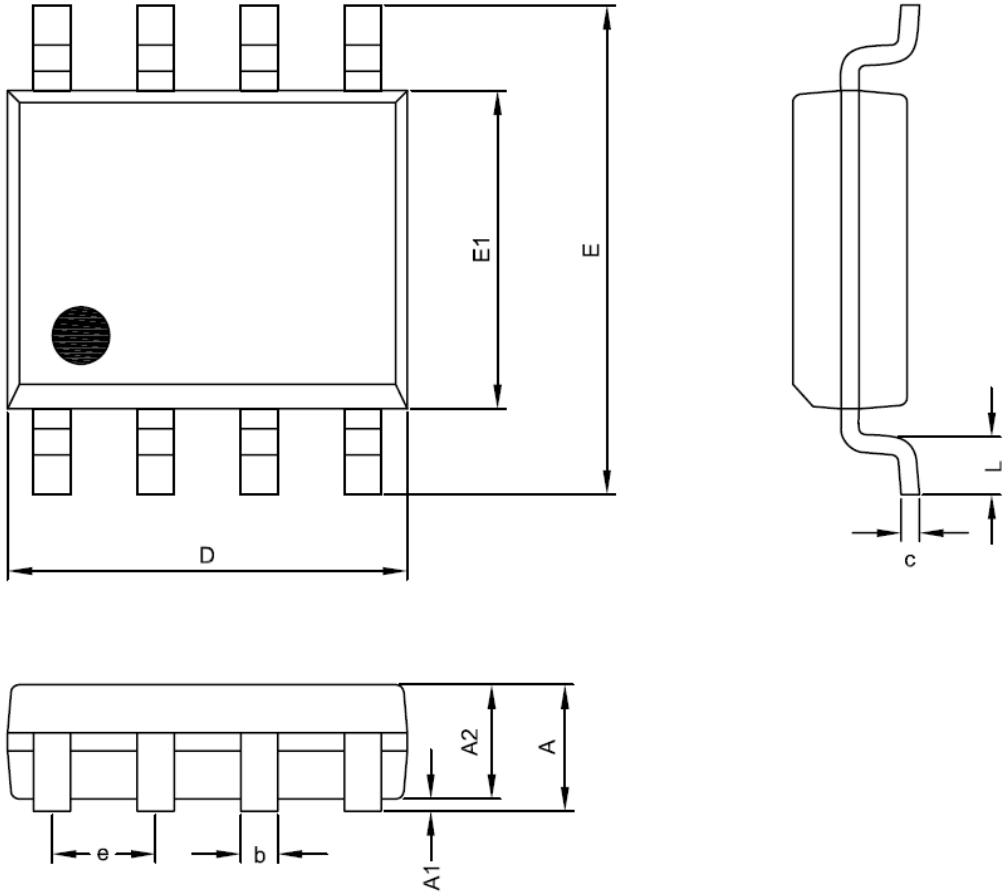

Symbol	Dimensions In Millimeters	
	MIN.	MAX.
A	1.35	1.75
A1	0.00	0.25
A2	1.15	1.50
D	4.80	5.00
E	5.80	6.20
E1	3.80	4.00
c	0.19	0.27
b	0.33	0.53
e	1.27 BSC	
L	0.40	1.27

Notes：

1. Jedec outline ： MS-012AA
2. Dimensions ” D ” does not include mold flash, protrusions and gate burrs shall not exceed .15 mm (.006 in) per side .
3. Dimensions “ E1 ” does not include inter-lead flash, or protrusions. Inter-lead flash and protrusions shall not exceed .25 mm (.010 in) per side.