

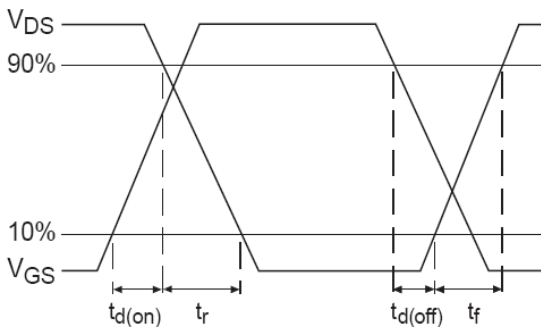
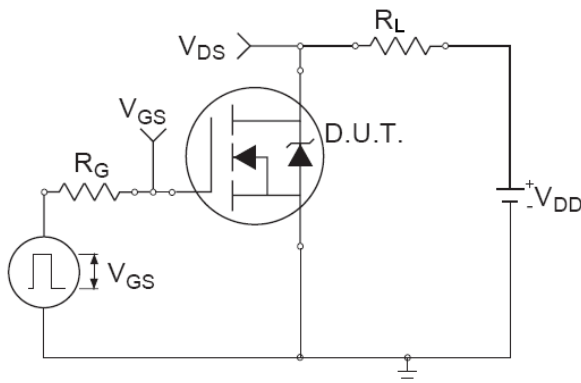
Features

- V_{DS}=100V/V_{GS}=±20V/I_D=3.5A
- R_{DS(ON)}=105mΩ(Max.)@V_{GS}=10V
- R_{DS(ON)}=175mΩ(Max.)@V_{GS}=4.5V
- ESD protect
- Reliable and Rugged
- High Density Cell Design For Ultra Low On-Resistance

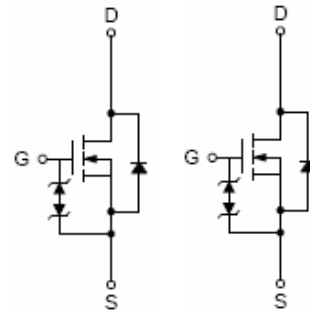
Applications

- Synchronous Rectification
- Power Management in Inverter System

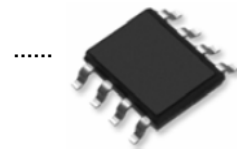
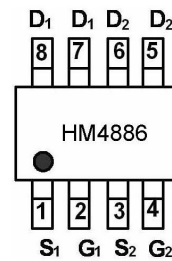
Switching Time Test Circuit and Waveforms



Pin Description



Marking and pin Assignment



SOP-8 top view

Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
HM4886	HM4886E	SOP-8	-	-	-

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Symbol	Parameter	Typical	Unit	
V _{DSS}	Drain-Source Voltage	100	V	
V _{GSS}	Gate –Source Voltage	±20	V	
I _D ¹	Continuous Drain Current	T _C =70°C	2.8	A
			3.5	A
I _{DM} ¹	300us Pulsed Drain Current Tested	T _C =25°C	14	A
I _S ¹	Diode Continuous Forward Current		3	A
E _{AS} ²	Avalanche Energy, Single Plused(L=0.3mH)		30	mJ
T _J	Operating Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 ~ 150	°C

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

2: UIS tested and pluse width limited by maximum junction temperature 150°C (initial temperature T_J=25°C).

Electrical Characteristics (T_A=25°C unless otherwise noted)

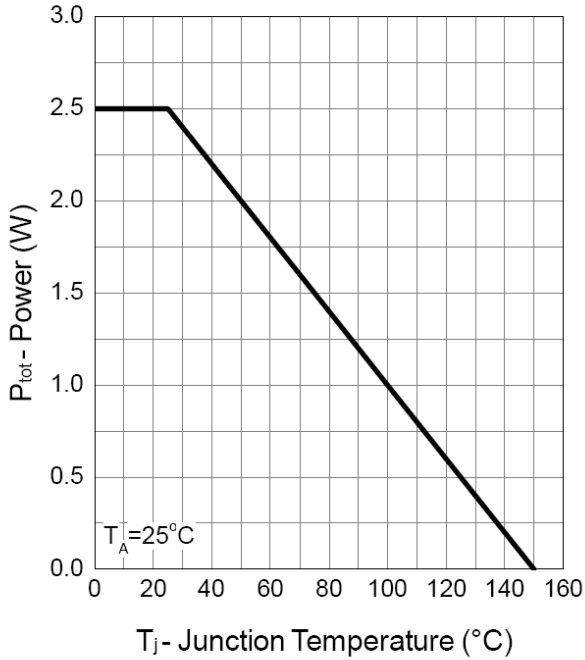
Symbol	Parameter	Test Conditions	Min.	Typ	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	100			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-80V, V _{GS} =0V			1	uA
		T _J =85°C			30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250uA	1.5	2	2.5	V
I _{GSS}	Gate Leakage Current	V _{GS} =±16V, V _{DS} =0V			±10	nA
R _{DSON} ¹	Drain-Source On-Resistance	V _{GS} =10V, I _D =3.5A		85	105	mΩ
		V _{GS} =4.5V, I _D =2A		135	175	
Diode Characteristics						
V _{SD} ¹	Diode Forward Voltage	I _{SD} =3A, V _{GS} =0V	0.6	0.8	1.1	V
t _{rr}	Reverse Recovery Time	I _{SD} =3.5A,		44		ns
Q _{rr}	Reverse Recovery Charge	dI _{SD} /dt=100A/us		80		nC
Dynamic Characteristics²						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =30V Frequency=1MHz		940		pF
C _{oss}	Output Capacitance			80		
C _{rss}	Reverse Transfer Capacitance			50		
t _{d(on)}	Turn-On Delay Time	V _{DD} =30V, R _L =30Ω I _D =1A, V _{GEN} =10V R _G =6Ω		13	24	ns
t _r	Turn-On Rise Time			10	19	
t _{d(off)}	Turn-Off Delay Time			32	60	
t _f	Turn-Off Fall Time			16	30	
Gate Charge Characteristics²						
Q _g	Total Gate Charge	V _{DS} =50V, V _{GS} =10V I _D =3.5A		21		nC
Q _{gs}	Gate-Source Charge			4.9		
Q _{gd}	Gate-Drain Charge			5.8		

Note: 1: Pulse test ; pulse width ≤ 300ns, duty cycle ≤ 2%.

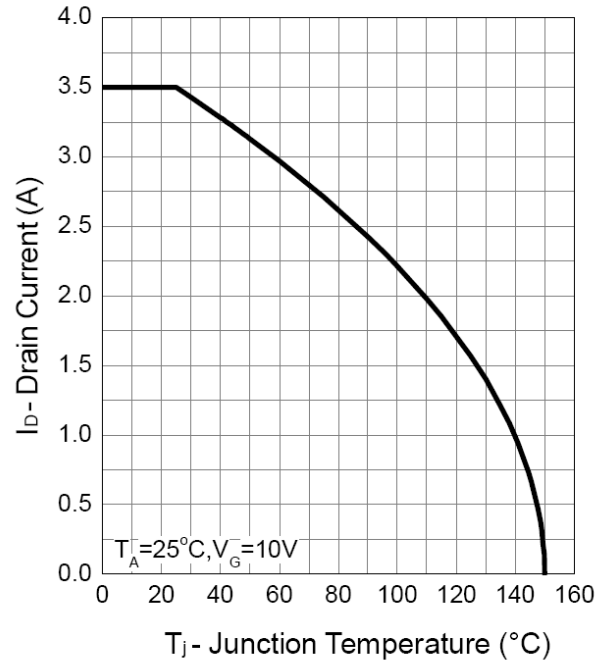
2: Guaranteed by design, not subject to production testing.

Typical Characteristics

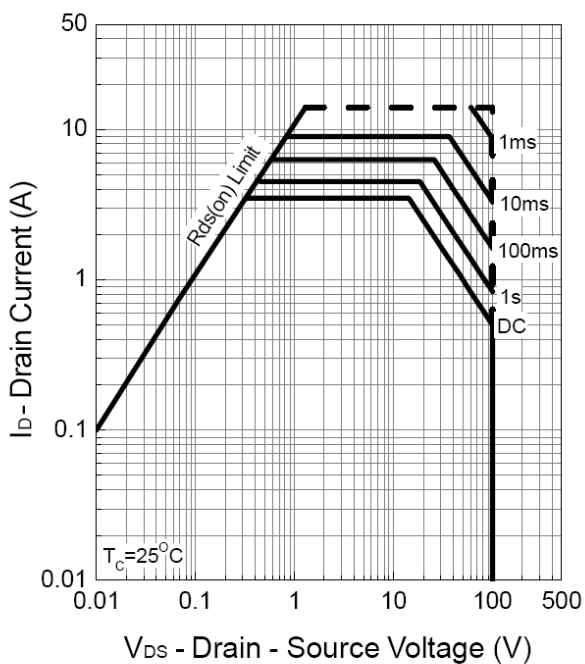
Power Dissipation



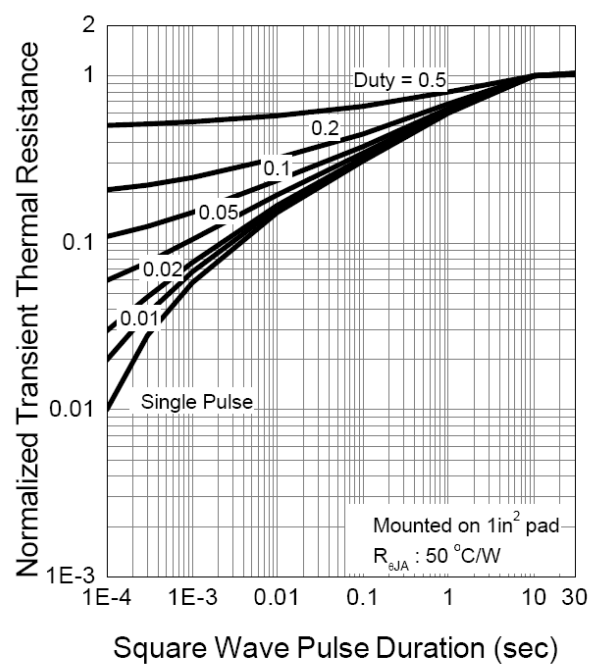
Drain Current



Safe Operation Area

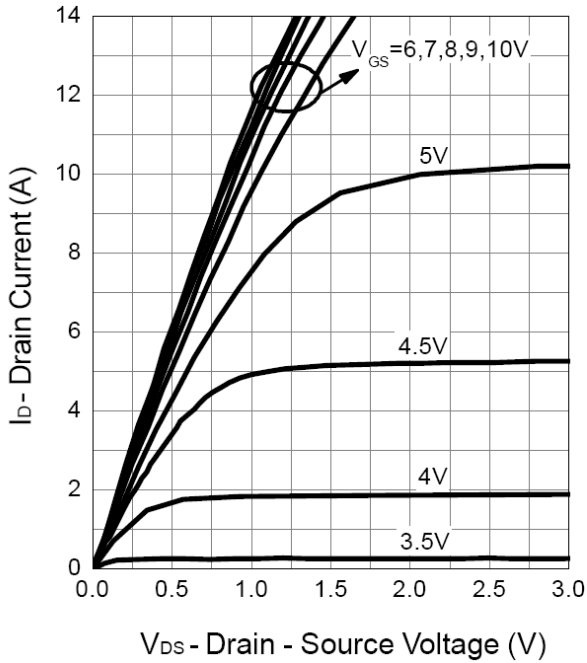


Thermal Transient Impedance

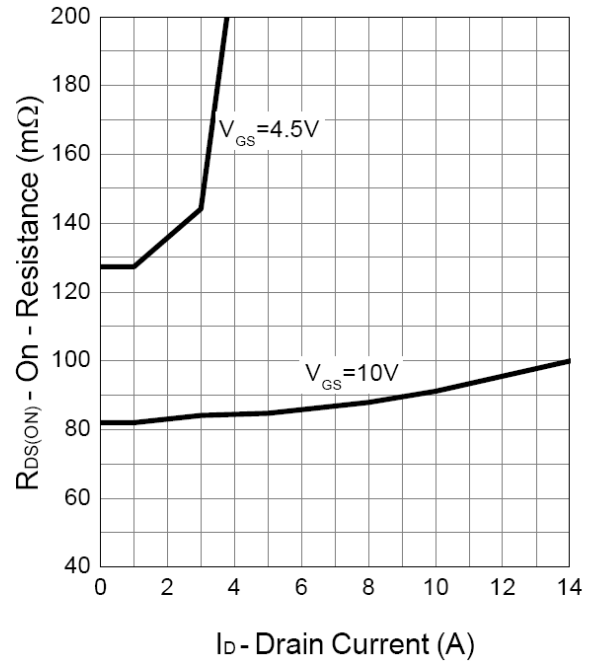


Typical Characteristics (Cont.)

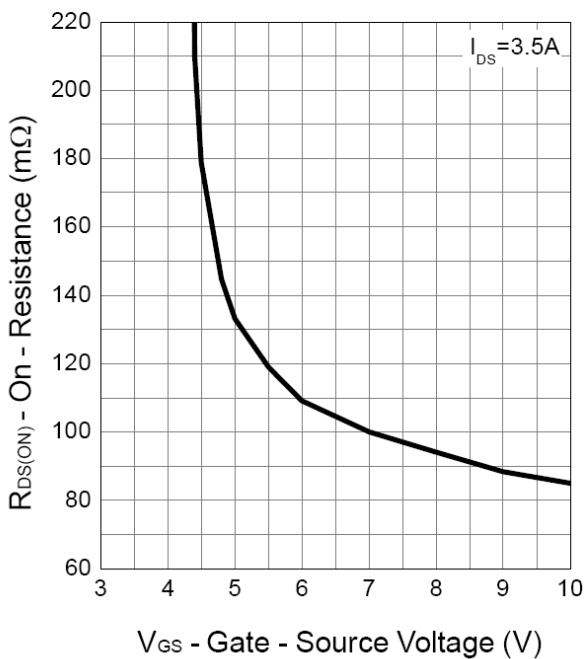
Output Characteristics



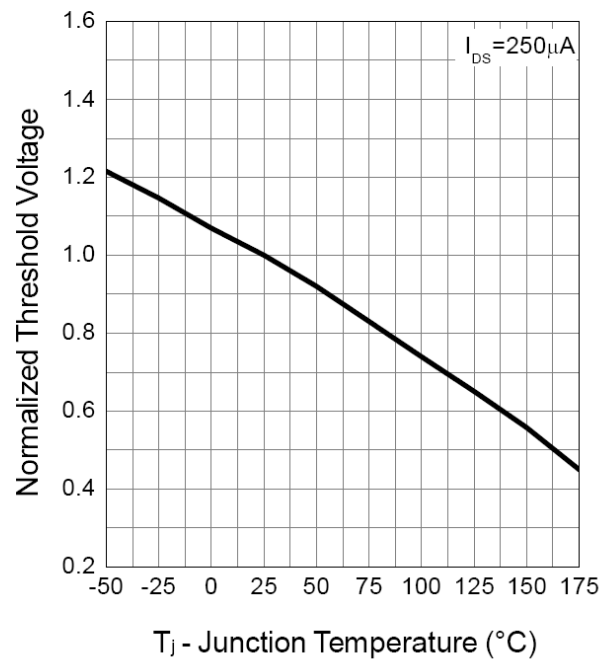
Drain-Source On Resistance



Gate-Source On Resistance

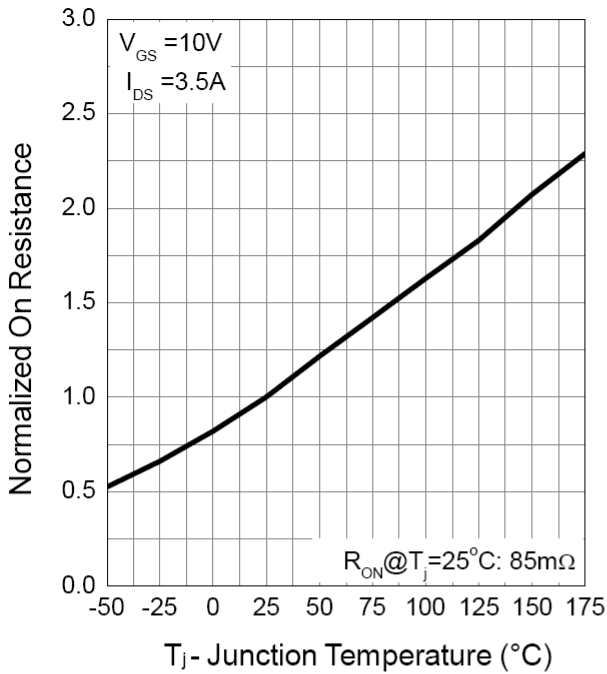


Gate Threshold Voltage

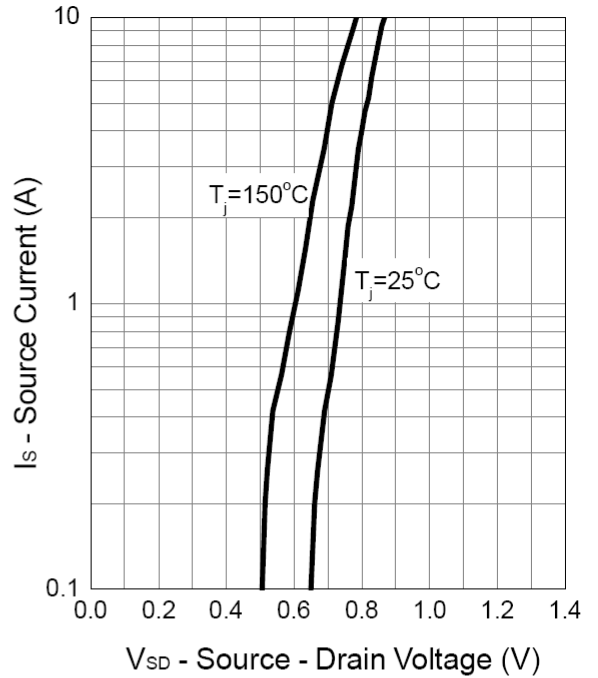


Typical Characteristics (Cont.)

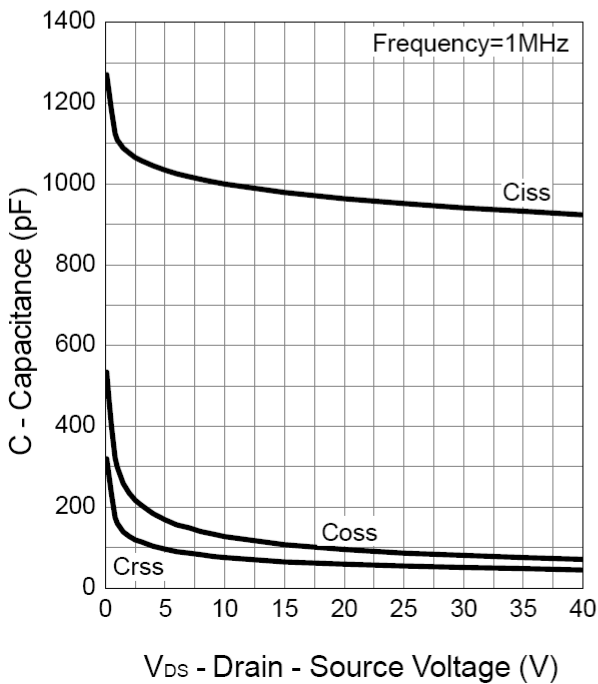
Drain-Source On Resistance



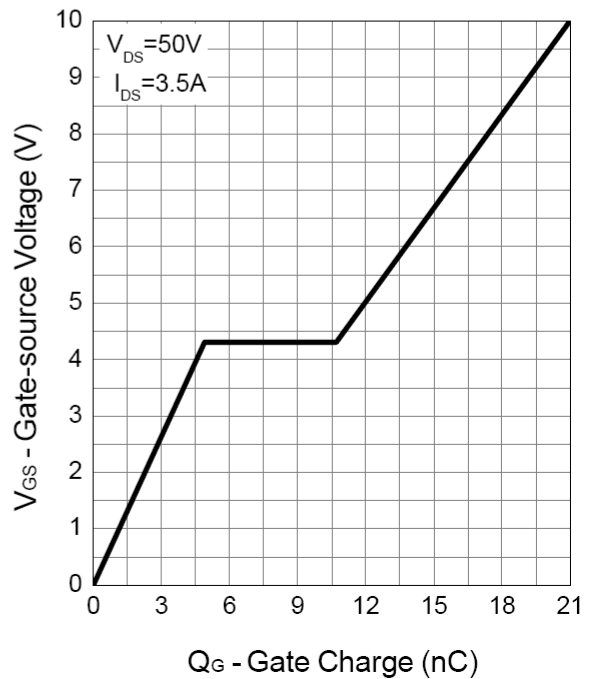
Source-Drain Diode Forward

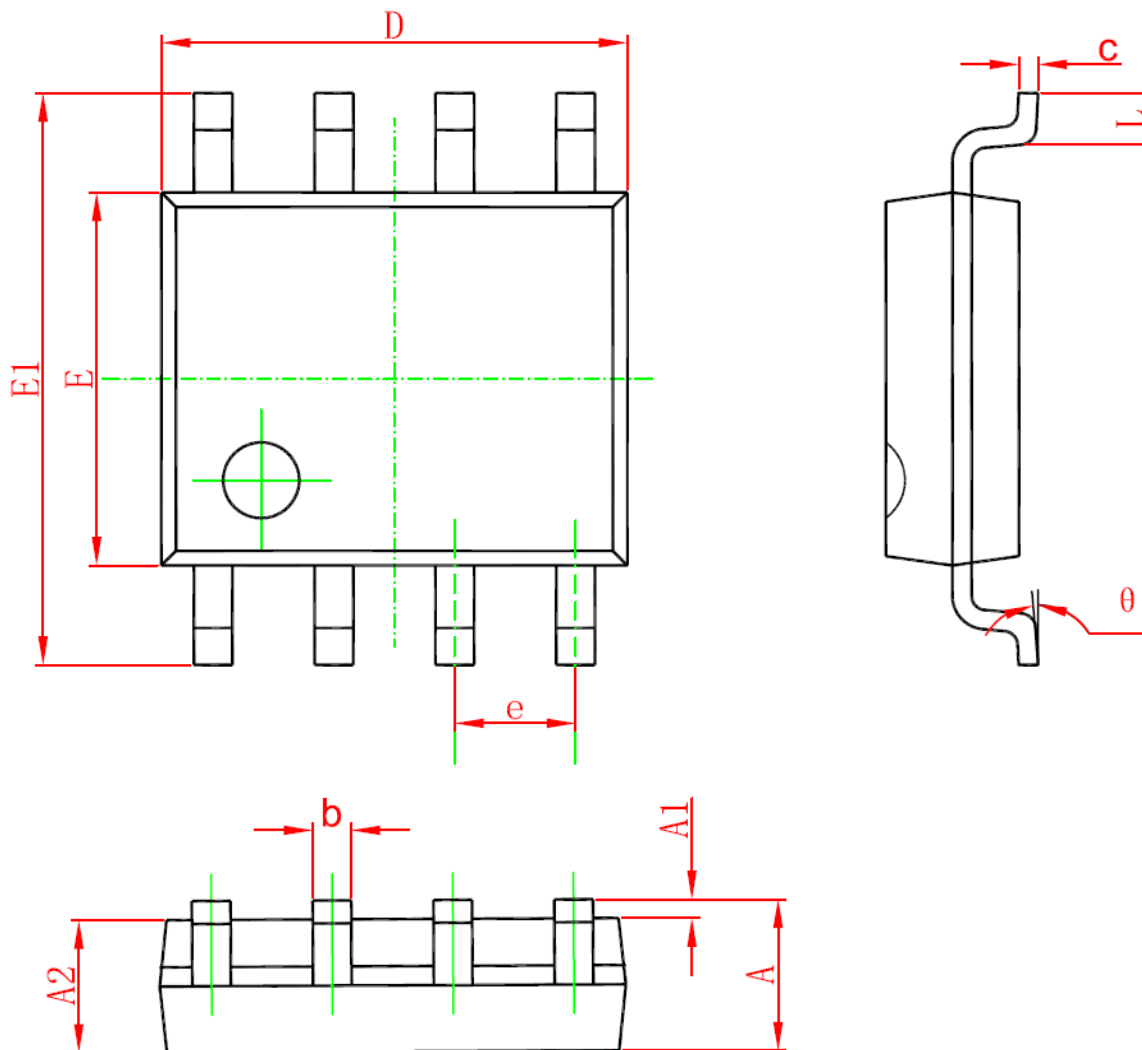


Capacitance



Gate Charge





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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