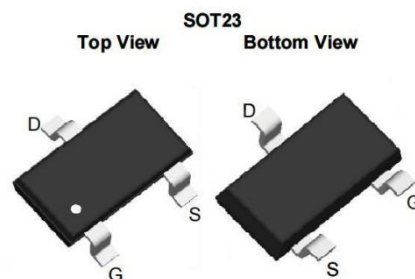




Product Summary

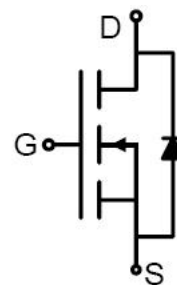
$V_{(BR)DSS}$	$R_{DS(ON)} \text{ max}$	$I_D \text{ max}$
30V	$< 31.3\text{m}\Omega @ V_{GS}=10\text{V}$	5.2A
	$< 35.2\text{m}\Omega @ V_{GS}=4.5\text{V}$	
	$< 48.7\text{m}\Omega @ V_{GS}=2.5\text{V}$	

Package & Internal Circuit



Description and Applications

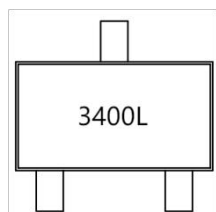
- Low Gate Charge
- High Power and current handling capability
- Lead free product is acquired
- PWM Applications
- Load Switch
- Power Management



Ordering Information

Part Number	Package Type	Package Qty
CFS3400L	SOT-23	3,000/Tape & Reel

Marking Information



3400L--Part Number

Green product

Absolute Maximum Rating ($T_{amb}=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Value	Units
Drain-Source Voltage		V _{DS}	30	V
Gate-Source Voltage		V _{GS}	±12	V
Drain Current - Continuous	T _C =25°C	I _D	5.2	A
	T _C =100°C		3.2	A
Pulsed Drain Current		I _{DM}	20.8	A
Single Pulse Avalanche Energy	L=0.5mH	E _{AS}	20	mJ
Power Dissipation	T _C =25°C	P _D	1.1	W
	T _C =100°C		0.4	W/°C
Operating and Storage Temperature Range		T _J , T _{STG}	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Typ	Max	Units
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$		115	°C/W

Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Static Parameters						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D = 250μA, V _{GS} =0V	30			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V T _J =25℃			1	μA
		V _{DS} =30V, V _{GS} =0V T _J =125℃			100	μA
I _{GSS}	Gate-Body leakage current	V _{DS} =0V, V _{GS} = ±12V			±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.45		1.25	V
R _{DS(ON)}	Drain-Source on-Resistance	V _{GS} =10V, I _D =1.5A		25.0	31.3	mΩ
		V _{GS} =4.5V, I _D =1A		26.5	35.2	mΩ
		V _{GS} =2.5V, I _D =1A		36.6	48.7	mΩ
g _{FS}	Forward Trans Conductance	V _{DS} =5V, I _D =2A		6.6		S
V _{SD}	Body Diode Forward Voltage	I _S =2A, V _{GS} = 0V			1.2	V
I _{SD}	Source-Drain Current (Body Diode)				5.2	A
Dynamic parameters						
C _{iss}	Input Capacitance	V _{GS} =0V V _{DS} =15V f=1.0MHz		488		pF
C _{oss}	Output Capacitance			44		pF
C _{rss}	Reverse Transfer Capacitance			35		pF
R _g	Gate resistance	f=1.0MHz		5.4		Ω
Switching Parameters						
Q _g	Total Gate Charge	V _{GS} =4.5V V _{DS} =15V I _D =2A		7		nC
Q _{gs}	Gate Source Charge			1.6		nC
Q _{gd}	Gate Drain Charge			1.6		nC
t _{D(on)}	Turn-On Delay Time	V _{GS} =4.5V V _{DS} =15V R _L =7.5Ω R _G =3Ω		5		ns
t _r	Turn-On Rise Time			12		ns
t _{D(off)}	Turn-Off Delay Time			24		ns
t _f	Turn-Off Fall Time			2		ns
t _{rr}	Body Diode Reverse Recovery Time	I _F =2A di/dt =100 A/μs		8.5		ns
Q _{rr}	Body Diode Reverse Recovery Charge			3.4		nC

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

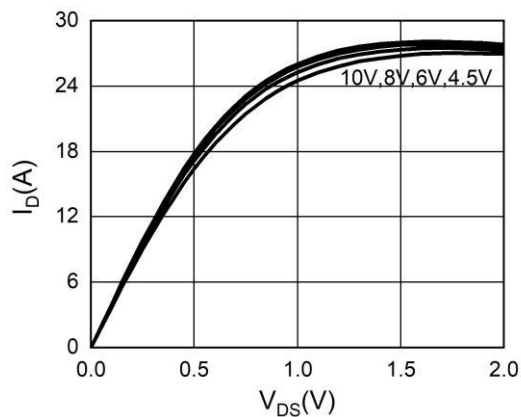


Figure 1: Output Characteristics

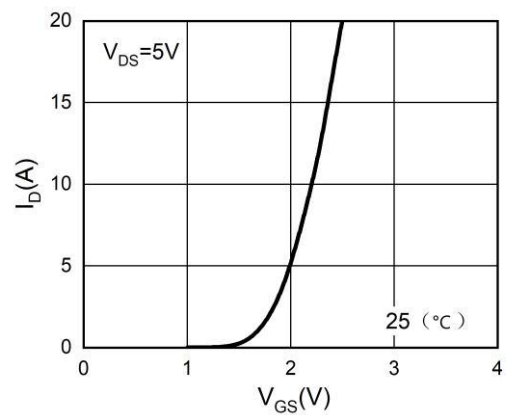


Figure 2: Transfer Characteristics

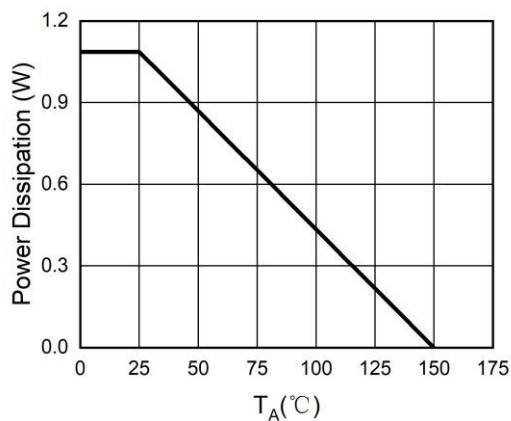


Figure 3: Power Dissipation

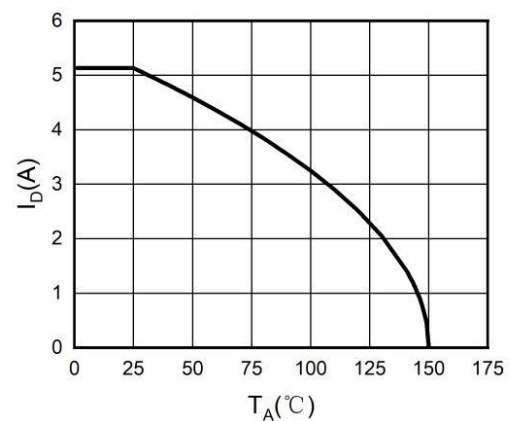


Figure 4: Drain Current

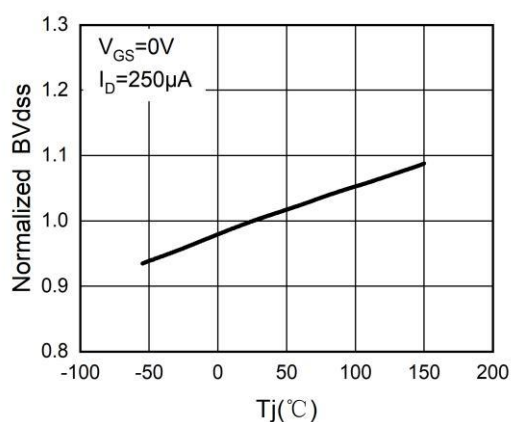


Figure 5: BV_{DS} vs Junction Temperature

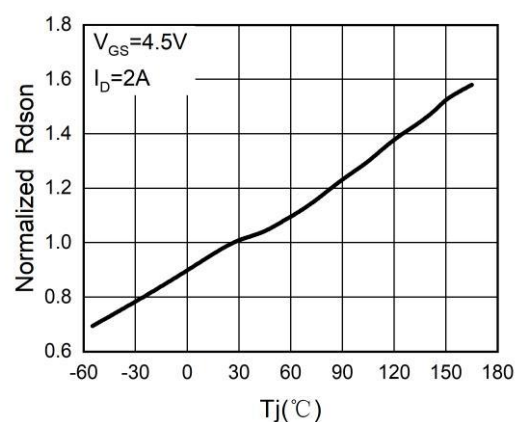


Figure 6: $R_{DS(ON)}$ vs Junction Temperature

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

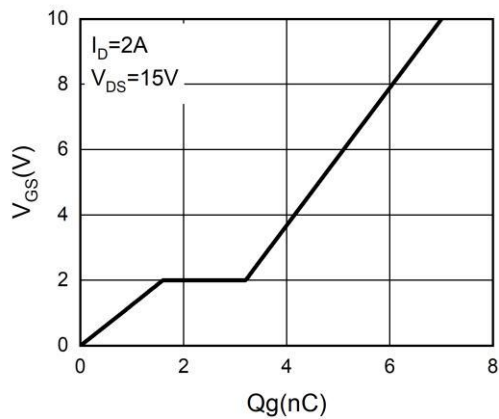


Figure 7: Gate Charge Waveforms

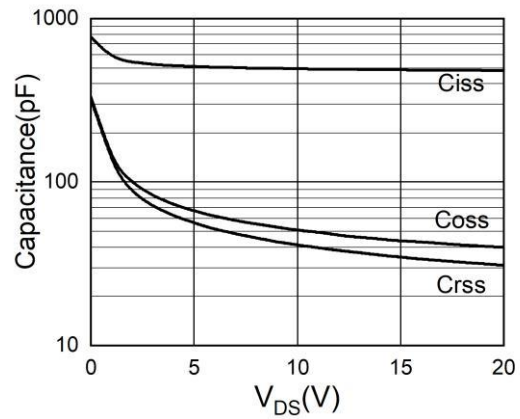


Figure 8: Capacitance

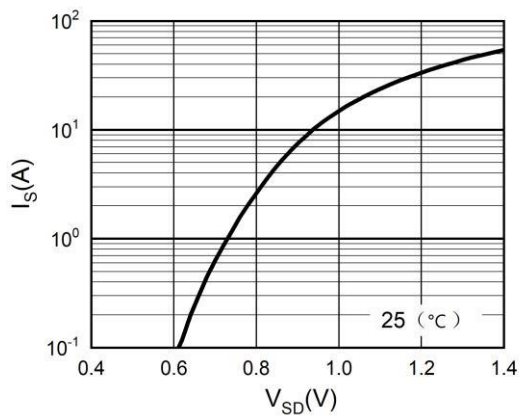


Figure 9: Body-Diode Characteristics

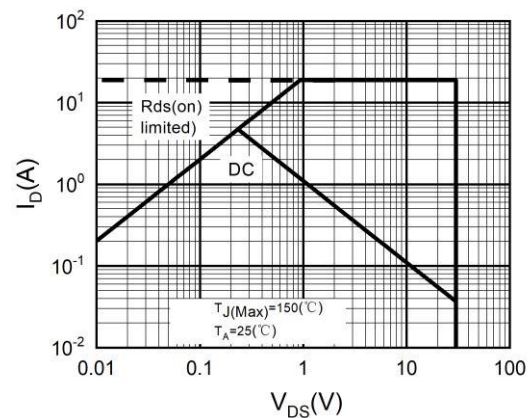
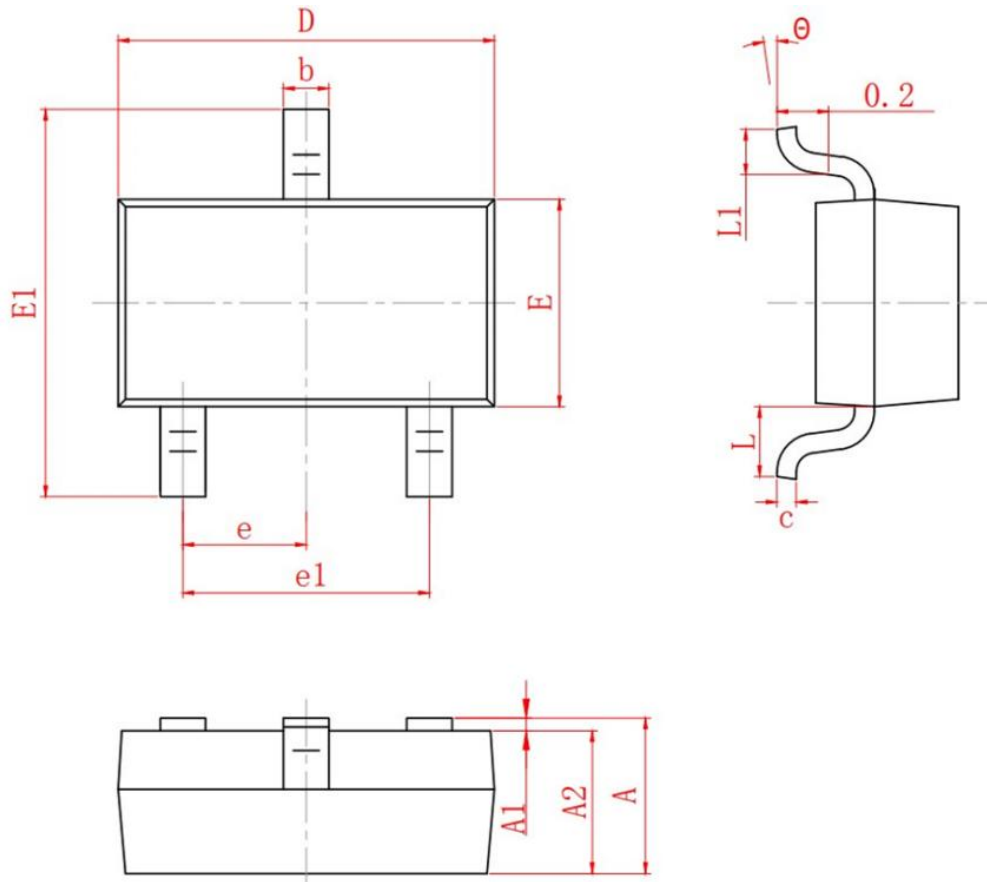


Figure 10: Maximum Safe Operating Area

SOT-23 Package Information



SYMBOL	MIN	NOM	MAX
A	0.90	1.05	1.20
A1	0.00	0.05	0.10
A2	0.90	1.00	1.10
b	0.30	0.40	0.50
c	0.08	0.10	0.15
D	2.80	2.90	3.00
E	1.20	1.30	1.40
E1	2.30	2.40	2.50
L	0.30	0.40	0.50
θ	0°	5°	10°
L1	0.55 REF		
e	0.95 BSC		
e1	1.90 REF		

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