



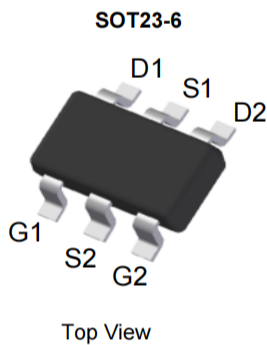
Product Summary

BV_{DSS}	20V
$R_{DS(ON)}$	45mΩ
I_D	4A

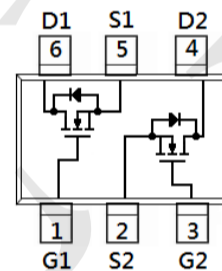
Application

- Notebook
- Load Switch
- Networking
- Hand-held Instruments

Package and Pin Configuration



Circuit diagram



Marking:



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

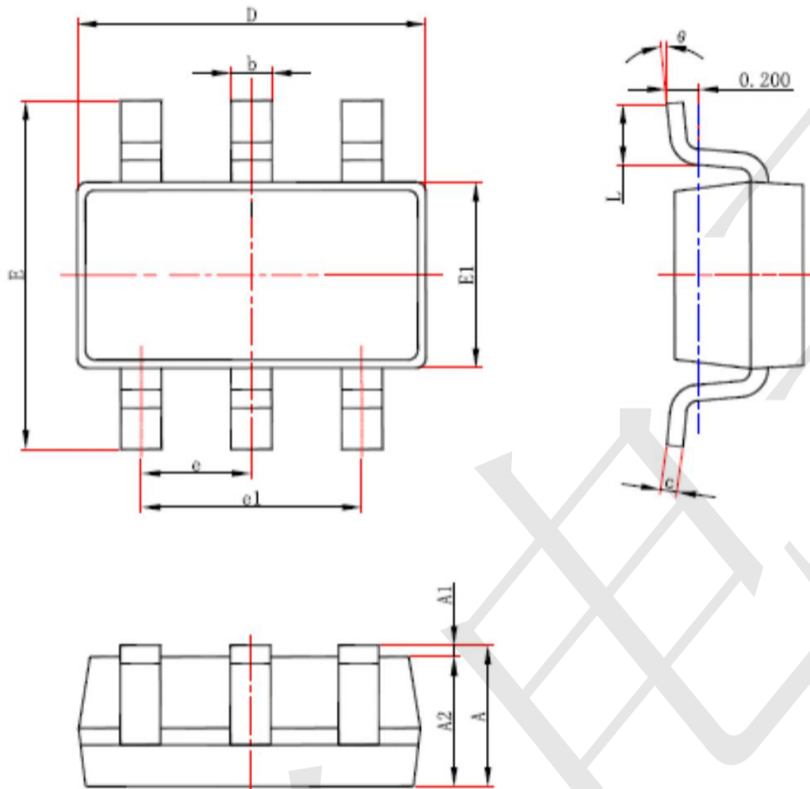
PARAMETER	SYMBOL	LIMIT	UNITS
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	4	A
Pulsed Drain Current	I_{DM}	10	A
Power Dissipation	P_D	$T_a=25^\circ\text{C}$	1.25 W
		Derate above 25°C	10 mW/ $^\circ\text{C}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$
Typical Thermal Resistance - Junction to Ambient ^(Note 3)	$R_{\theta JA}$	100	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.4	0.6	1.2	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=4A$	-	28	36	m Ω
		$V_{GS}=2.5V, I_D=3.7A$	-	35	45	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	-	0.01	1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=10V, I_D=4.0A,$ $V_{GS}=4.5V$ (Note 1,2)	-	7	-	nC
Gate-Source Charge	Q_{gs}		-	1.3	-	
Gate-Drain Charge	Q_{gd}		-	2	-	
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V,$ $f=1.0MHz$	-	513	-	pF
Output Capacitance	C_{oss}		-	74	-	
Reverse Transfer Capacitance	C_{rss}		-	60	-	
Switching						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V, I_D=4.0A,$ $V_{GS}=4.5V,$ $R_G=6\Omega$ (Note 1,2)	-	6.2	-	ns
Turn-On Rise Time	t_r		-	56	-	
Turn-Off Delay Time	$t_{d(off)}$		-	23	-	
Turn-Off Fall Time	t_f		-	13	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	1.5	A
Diode Forward Voltage	V_{SD}	$I_S=1.0A, V_{GS}=0V$	-	0.71	1.2	V



SOT23-6 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°