



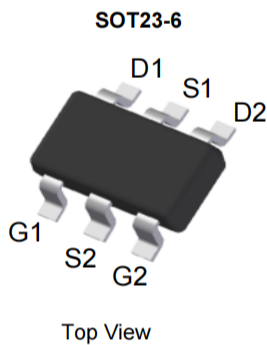
**Product Summary**

$BV_{DSS}$	20V
$R_{DS(ON)}$	45mΩ
$I_D$	4A

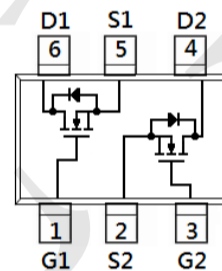
**Application**

- 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)**

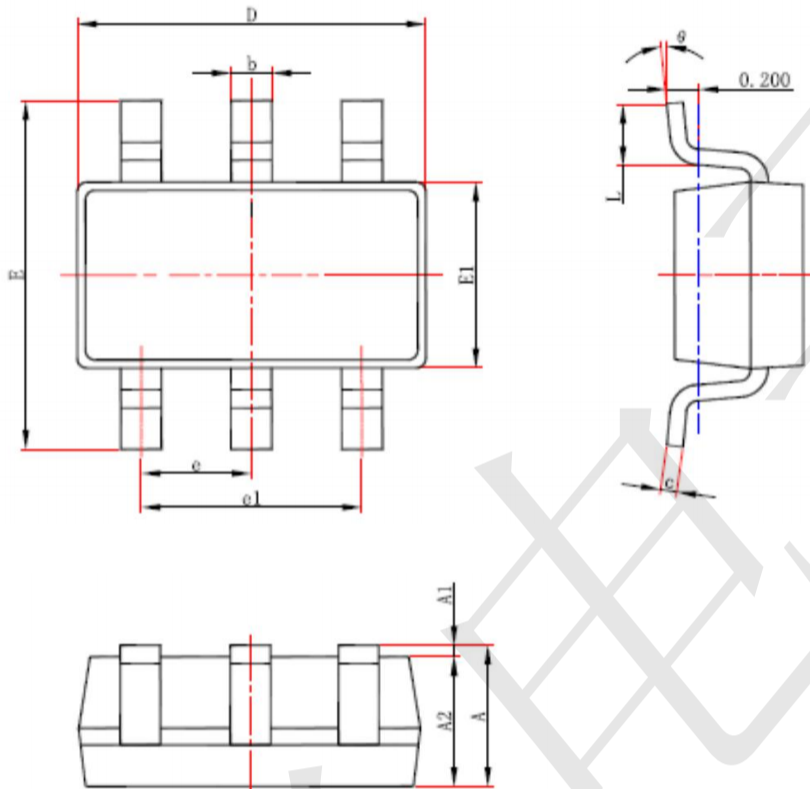
PARAMETER	SYMBOL	LIMIT	UNITS
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D$	4	A
Pulsed Drain Current	$I_{DM}$	10	A
Power Dissipation	$P_D$	$T_A=25^\circ\text{C}$	1.25 W
		Derate above $25^\circ\text{C}$	10 mW/ $^\circ\text{C}$
Operating Junction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

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
<b>Static</b>						
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 $\Omega$
		$V_{GS}=2.5V, I_D=3.7A$	-	35	45	
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0V$	-	0.01	1	$\mu A$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	$\pm 100$	nA
<b>Dynamic</b>						
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	-	
<b>Switching</b>						
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	-	
<b>Drain-Source Diode</b>						
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°

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