

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	0.38Ω@4.5V	0.7A
	0.62Ω@2.5V	

Feature

- High density cell design for ultra low on-resistance
- High-Side Switching
- Rugged and reliable
- ESD protection

Application

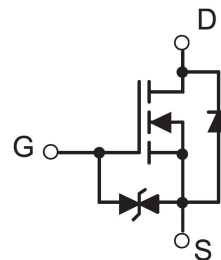
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers
- Drivers, Relays, Solenoid, Lamps, Hammers, Displays, Memories

Package

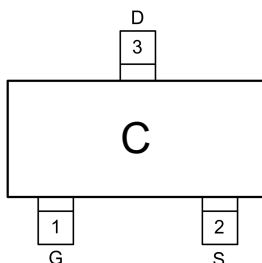


SOT-523

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±8	V
Continuous Drain Current	I _D	0.7	A
Pulsed Drain Current	I _{DM}	2.8	A
Power Dissipation	P _D	0.3	W
Thermal Resistance from Junction to Ambient	R _{θJA}	510	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Electrical characteristics (T_A=25 °C, unless otherwise noted)

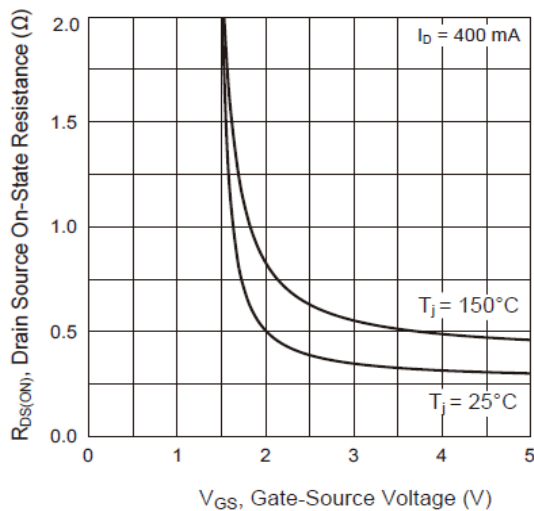
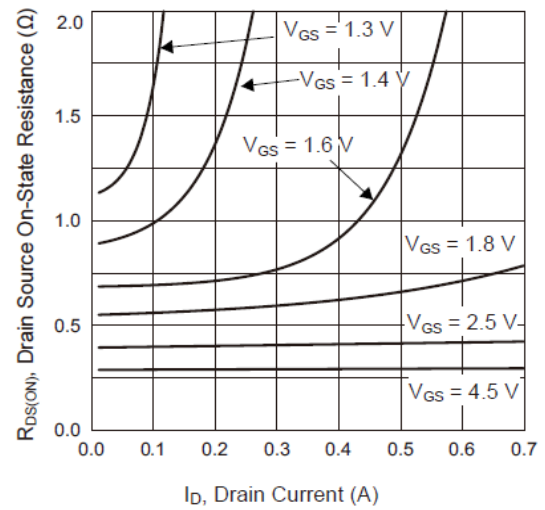
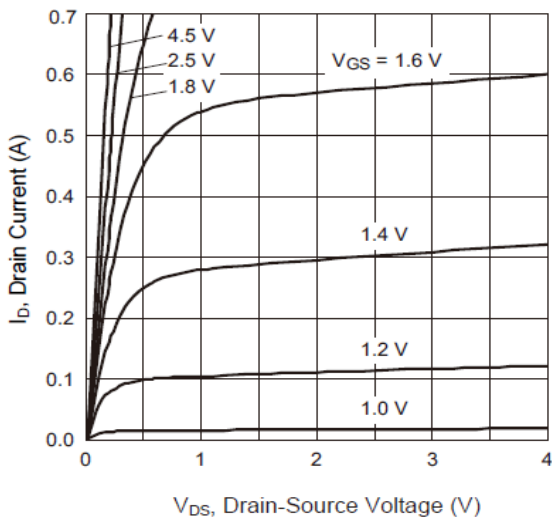
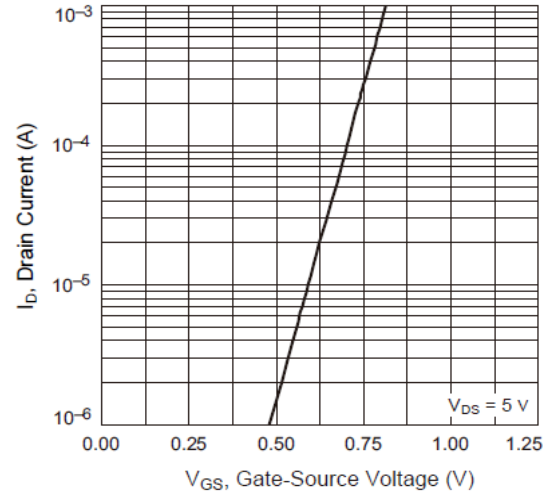
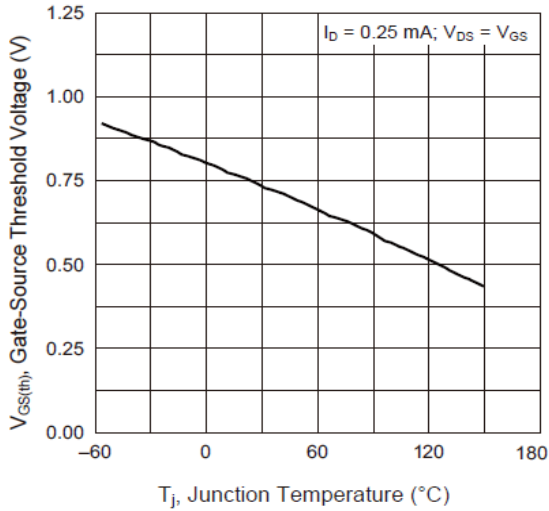
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 20V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V			±5	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.45		1.2	V
Drain-source on-resistance ¹⁾	R _{DS(on)}	V _{GS} = 4.5V, I _D = 0.5A			380	mΩ
		V _{GS} = 2.5V, I _D = 0.4A			620	
Dynamic characteristics²⁾						
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		78		pF
Output Capacitance	C _{oss}			15		
Reverse Transfer Capacitance	C _{rss}			7		
Turn-on delay time	t _{d(on)}	V _{DD} = 10V, V _{GS} = 4.5V, I _D = 0.3A, R _{GEN} = 3.3Ω		8		nS
Turn-on rise time	t _r			4		
Turn-off delay time	t _{d(off)}			160		
Turn-off fall time	t _f			28		
Source-Drain Diode characteristics						
Diode Forward voltage	V _{DS}	V _{GS} = 0V, I _S = 0.3A			1.2	V

Notes:

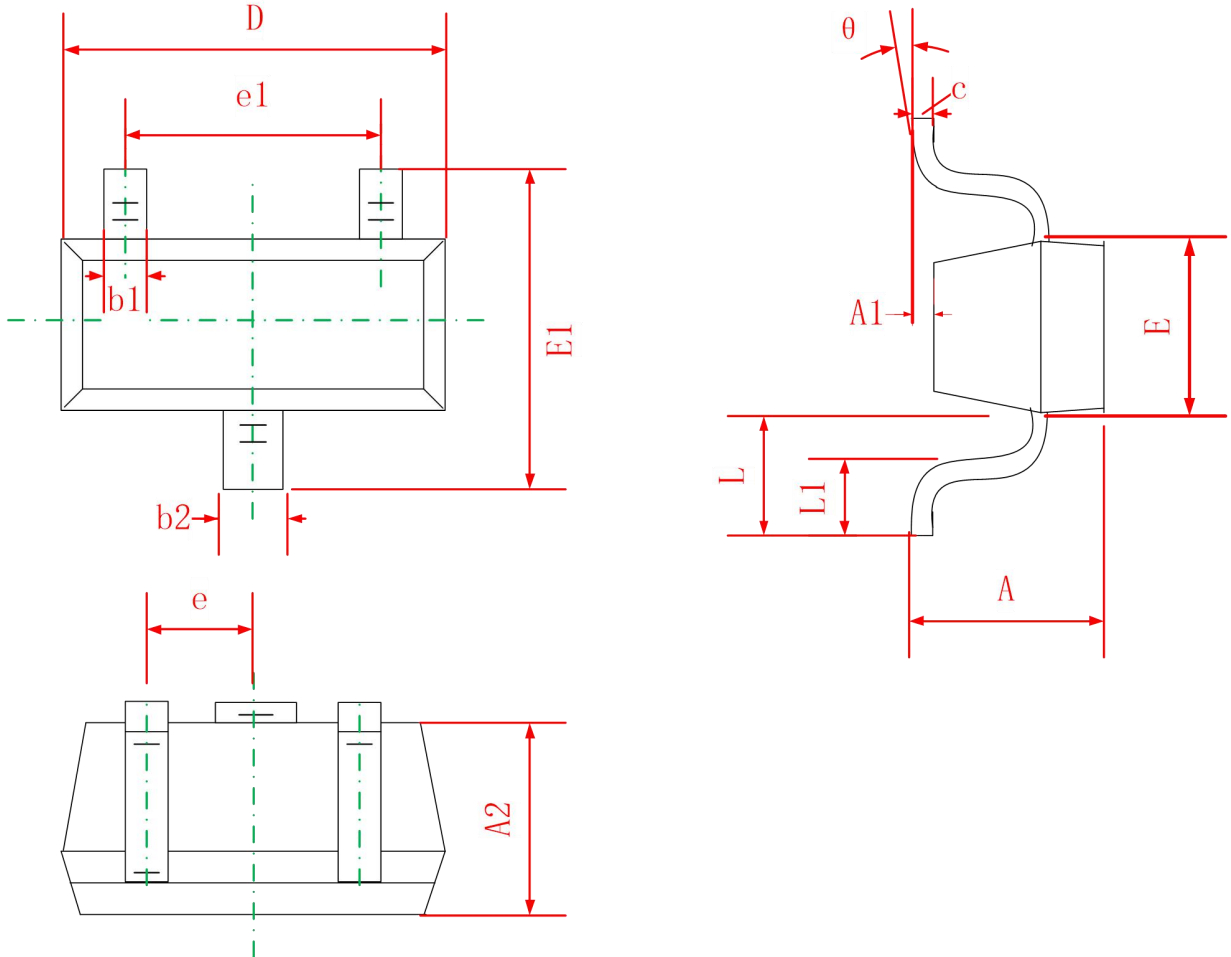
1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤ 2%.

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

Typical Characteristics



SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°