

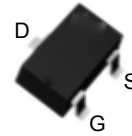
Features

- -100V/-2A,
 $R_{DS(ON)} = 270m\Omega$ (typ.) @ $V_{GS} = -10V$
 $R_{DS(ON)} = 290m\Omega$ (typ.) @ $V_{GS} = -4.5V$
- Reliable and Rugged
- Lead Free and Green Devices Available (RoHS Compliant)

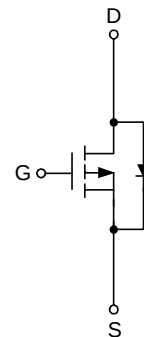
Applications

- Power Management in Desktop Computer or DC/DC Converters.

Pin Configuration



Top View of SOT23-3L



P-Channel MOSFET

Absolute Maximum Ratings

Symbol	Parameter		Rating	Unit
Common Ratings (T _A =25°C Unless Otherwise Noted)				
V _{DSS}	Drain-Source Voltage		-100	V
V _{GSS}	Gate-Source Voltage		±20	
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current		-2	A
I _{DP}	300μs Pulse Drain Current Tested	T _C =25°C	-6	A
		T _C =100°C	-4.5	
I _D	Continuous Drain Current	T _C =25°C	-2	A
		T _C =100°C	-1.5	
P _D	Maximum Power Dissipation	T _C =25°C	25	W
		T _C =100°C	1.0	
R _{θJA}	Thermal Resistance-Junction to Ambient	t ≤ 10s	50	°C/W
		Steady state	75	°C/W

Note * : Current limited by bond wire.

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

Symbol	Parameter	Test Conditions				Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =-250μA	-100	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-80V, V _{GS} =0V	-	-	-1	μA
		T _J =85°C	-	-	-30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =-250μA	-1	-	-3	V
I _{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
R _{DS(ON)} ^a	Drain-Source On-state Resistance	V _{GS} =-10V, I _{DS} =-2.5A	-	270	325	mΩ
		V _{GS} =-4.5V, I _{DS} =-1.6A	-	290	380	
Diode Characteristics						
V _{SD} ^a	Diode Forward Voltage	I _{SD} =-1A, V _{GS} =0V	-	-0.75	-1.1	V
t _{rr}	Reverse Recovery Time	I _{DS} =-2.5A,	-	30	-	ns
Q _{rr}	Reverse Recovery Charge	dI _{SD} /dt=100A/μs	-	33	-	nC

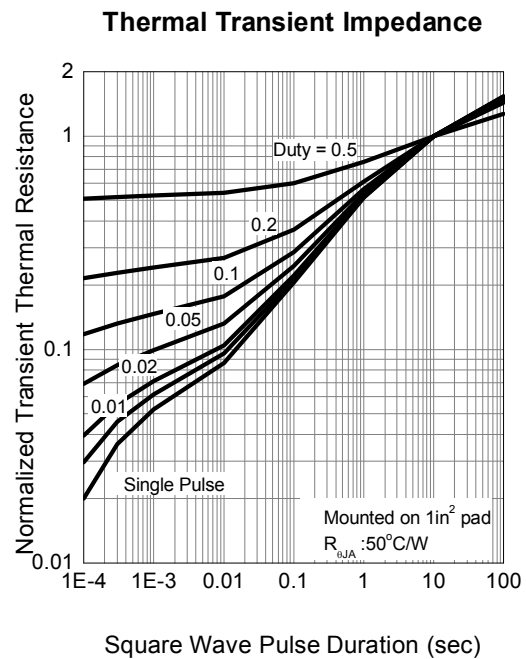
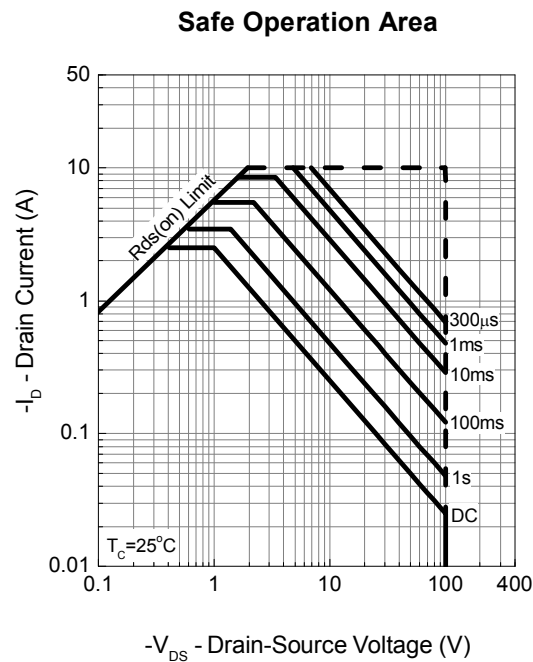
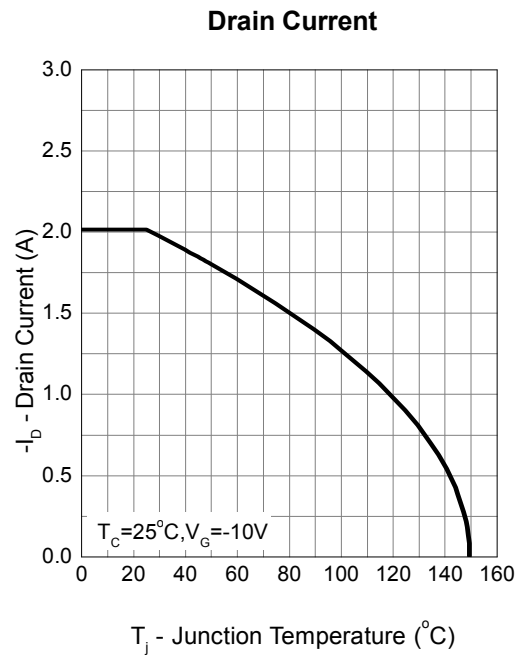
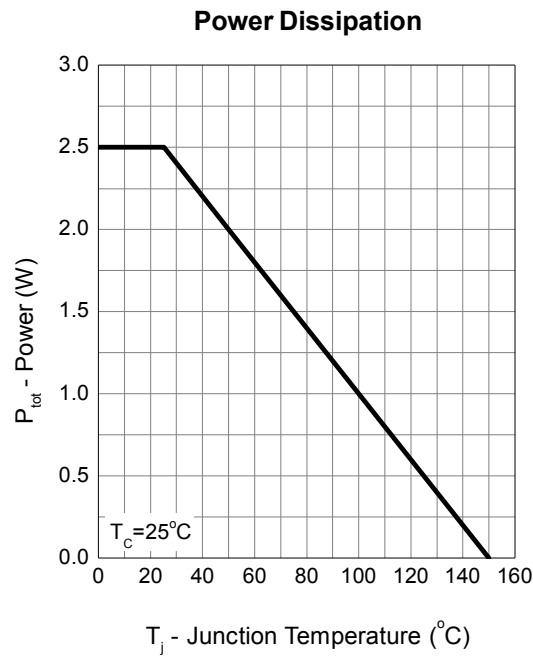
Electrical Characteristics (Cont.) ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Conditions				Unit
			Min.	Typ.	Max.	
Dynamic Characteristics ^b						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =-30V, Frequency=1.0MHz	-	1050	-	pF
C _{oss}	Output Capacitance		-	65	-	
C _{rss}	Reverse Transfer Capacitance		-	35	-	
t _{d(ON)}	Turn-on Delay Time	V _{DD} =-30V, R _L =30Ω, I _{DS} =-1A, V _{GEN} =-10V, R _G =6Ω	-	10	-	ns
t _r	Turn-on Rise Time		-	5	-	
t _{d(OFF)}	Turn-off Delay Time		-	68	-	
t _f	Turn-off Fall Time		-	58	-	
Gate Charge Characteristics ^b						
Q _g	Total Gate Charge	V _{DS} =-50V, V _{GS} =-10V, I _{DS} =-2.5A	-	20	-	nC
Q _{gs}	Gate-Source Charge		-	3.3	-	
Q _{gd}	Gate-Drain Charge		-	3.3	-	

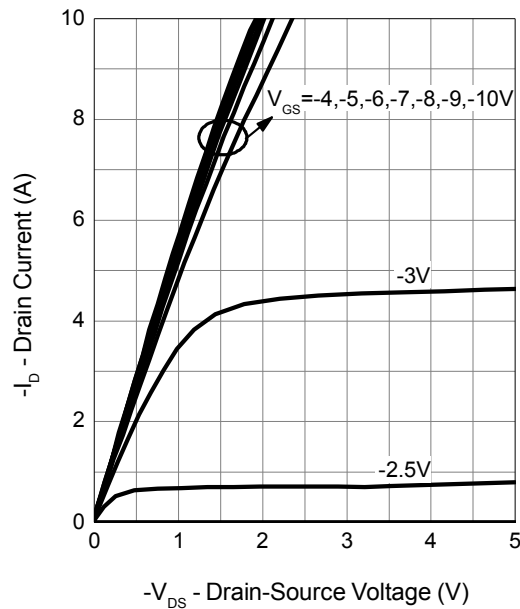
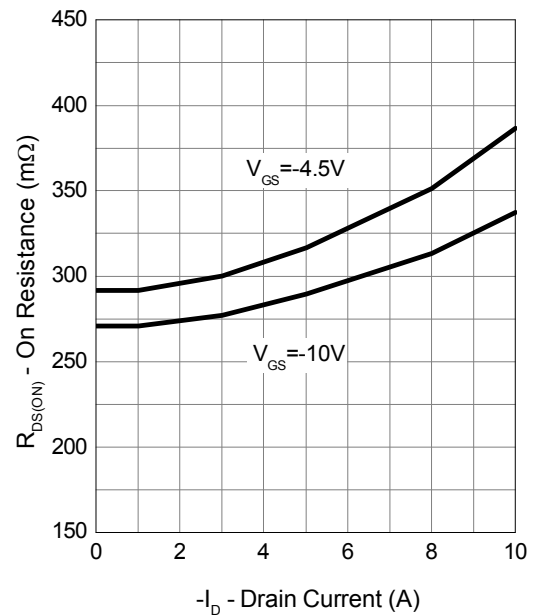
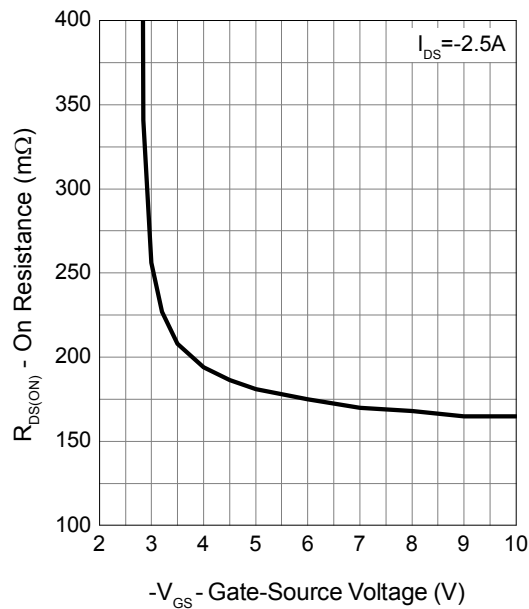
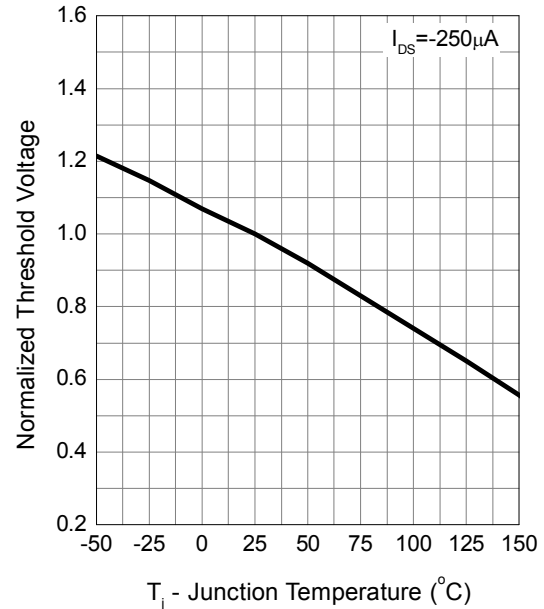
Note a : Pulse test ; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

Note b : Guaranteed by design, not subject to production testing.

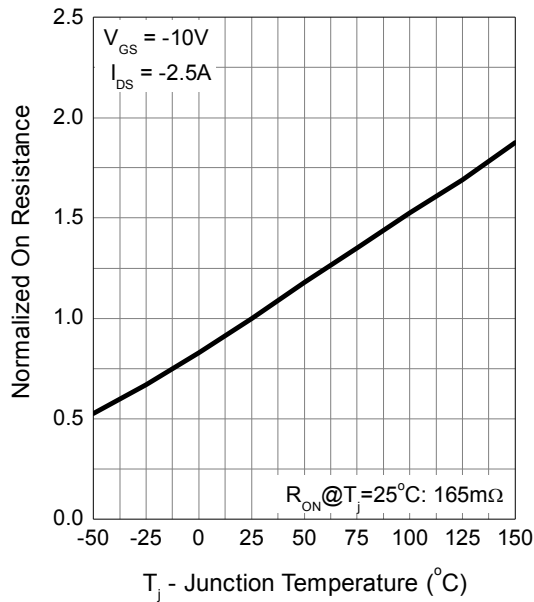
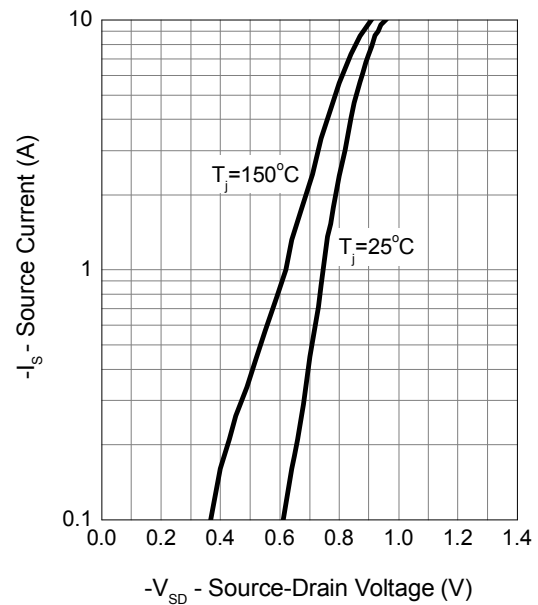
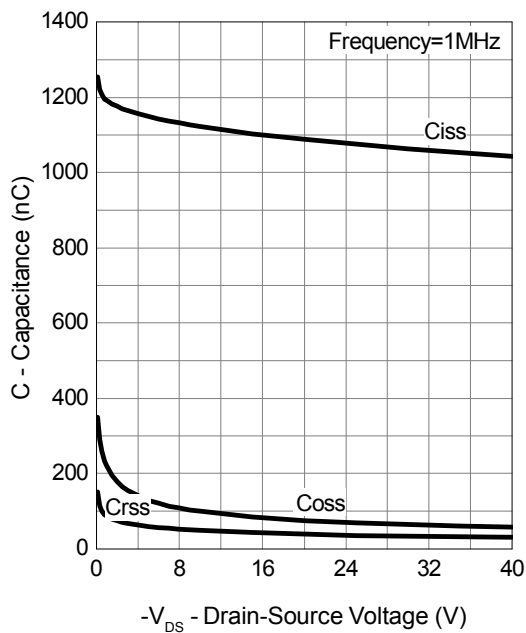
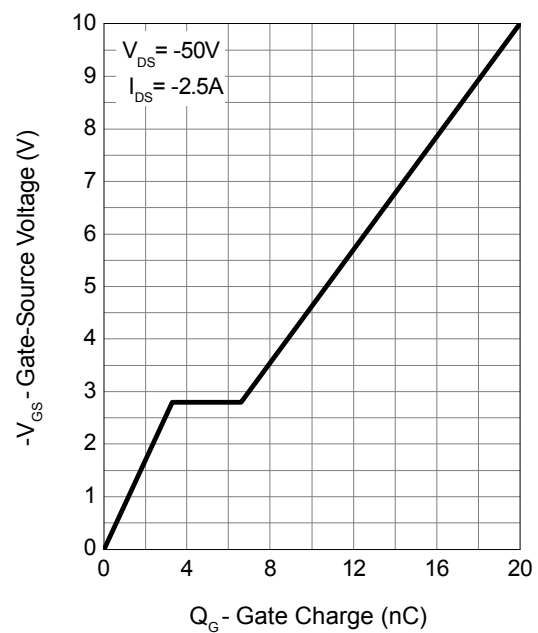
Typical Operating Characteristics



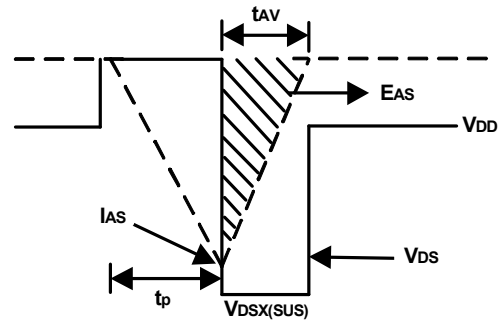
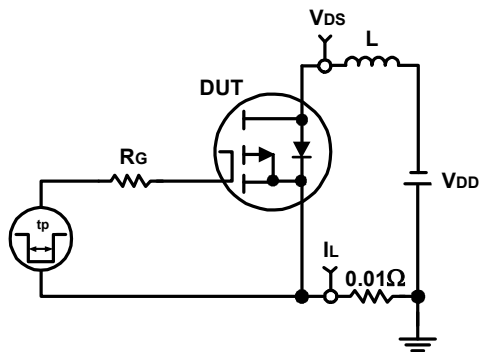
Typical Operating Characteristics (Cont.)

Output Characteristics

Drain-Source On Resistance

Gate-Source On Resistance

Gate Threshold Voltage


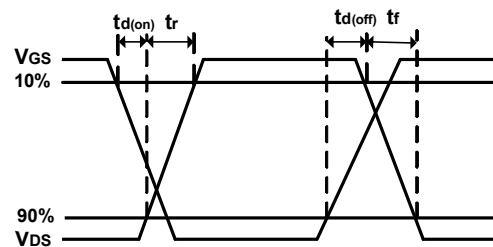
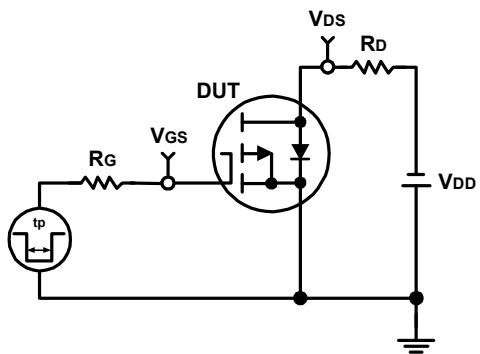
Typical Operating Characteristics (Cont.)

Drain-Source On Resistance

Source-Drain Diode Forward

Capacitance

Gate Charge


Avalanche Test Circuit and Waveforms

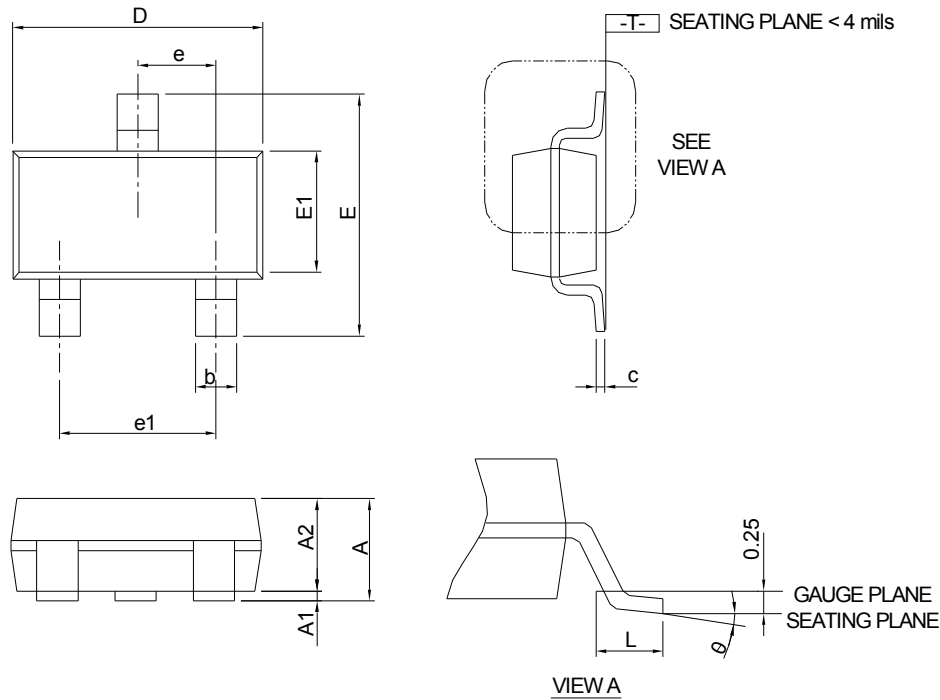


Switching Time Test Circuit and Waveforms



Package Information

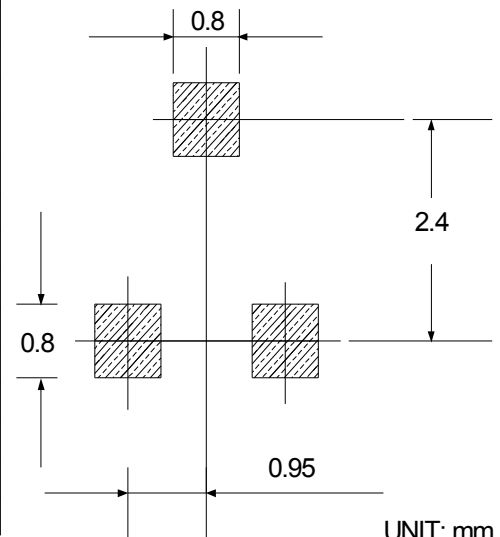
SOT23-3L



	SOT23-3L			
	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	-	1.20	-	0.047
A1	0.00	0.08	0.000	0.003
A2	0.90	1.12	0.035	0.044
b	0.30	0.50	0.012	0.020
c	0.08	0.22	0.003	0.009
D	2.70	3.10	0.106	0.122
E	2.60	3.00	0.102	0.118
E1	1.40	1.80	0.055	0.071
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.30	0.60	0.012	0.024
θ	0°	8°	0°	8°

Note : Dimension D and E1 do not include mold flash, protrusions or gate burrs. Mold flash, protrusion or gate burrs shall not exceed 10 mil per side.

RECOMMENDED LAND PATTERN



UNIT: mm