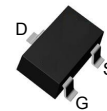


- 100V/3A
- $R_{DS(ON)}=220m\Omega$ (typ) @VGS=10V
 $R_{DS(ON)}=240m\Omega$ (typ) @VGS=4.5V
- 100% UIS & RG Tested
- Reliable and Rugged
- Lead Free and Green Devices Available (RoHS Compliant)

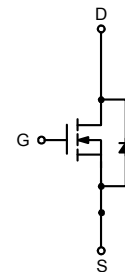
Applications

- Power Management for Industrial DC/DC Converters

Pin Description



Top View of SOT-23-3L



N-Channel MOSFET

Absolute Maximum Ratings (T = 25°C unless otherwise noted)

Symbol	Parameter		Rating	Unit
Common Ratings				
V _{DSS}	Drain-Source Voltage		100	V
V _{GSS}	Gate-Source Voltage		±20	
I _D	Continuous Drain Current	T _j =150°C	3	A
I _{DM}	Pulsed Drain Current	T _c =25°C	9	
I _S	Diode Continuous Forward Current	T _c =25°C	3	A
T _{STG} , T _j	Storage Temperature Range		-55 to 150	°C
PD	Power Dissipation	T _A =25°C	1.25	W
		T _A =70°C	0.8	
R _{θJA}	Thermal Resistance-Junction to Ambient		62.5	°C/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress rating only and functional device operation is not implied

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
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	-	-	5	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	1	-	2.5	V
I _{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
R _{DS(ON)}	Drain-Source On-state Resistance	V _{GS} =10V, I _{DS} =3A	-	220	280	mΩ
		V _{GS} =4.5V, I _{DS} =2.5A	-	240	300	
G _{fs}	Forward Transconductance	V _{DS} =5V, I _D =1A	-	10	-	S
Body Diode Characteristics						
V _{SD}	Diode Forward Voltage	I _{SD} =1A, V _{GS} =0V	-	0.8	1.0	V
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =50V, Frequency=1.0MHz	-	295	-	pF
C _{oss}	Output Capacitance		-	40	-	
C _{rss}	Reverse transfer capacitance		-	15	-	
t _{d(ON)}	Turn-on delay Time	V _{GS} =4.5V ,V _{DS} =50V R _G =6Ω, I _D =1A,R _L =10Ω,	-	3.6	-	nS
t _r	Turn-on rise Time		-	3.5	-	
t _{d(OFF)}	Turn-off delay Time		-	32	-	
t _f	Turn-off rise Time		-	3	-	
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{DS} =50V, V _{GS} =4.5V, I _{DS} =1A	-	2.1	-	nC
Q _{gs}	Gate-Source Charge		-	0.6	-	
Q _{gd}	Gate-Drain Charge		-	0.8	-	

Note: 1. Pulse test: pulse width≤300uS, duty cycle≤2%

2.Static parameters are based on package level with recommended wire bonding

TYPICAL CHARACTERISTICS (25 °C Unless Note)

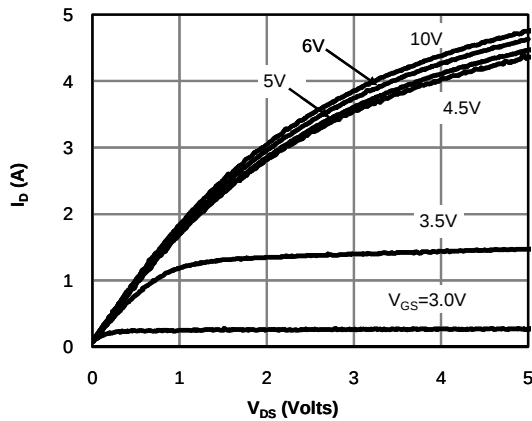


Fig 1: On-Region Characteristics (Note E)

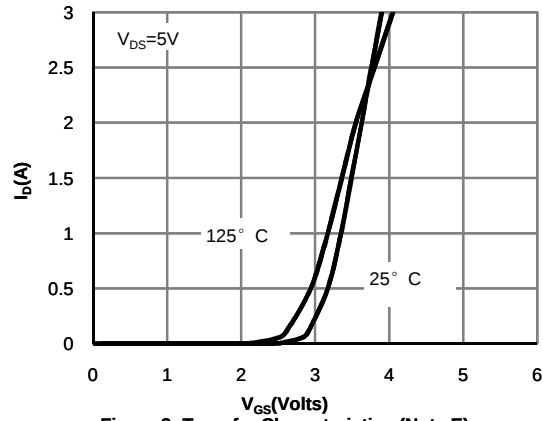


Figure 2: Transfer Characteristics (Note E)

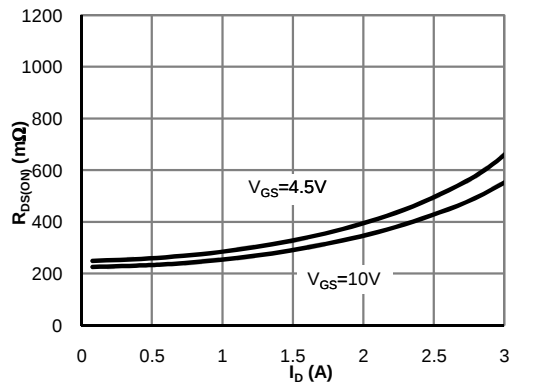


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

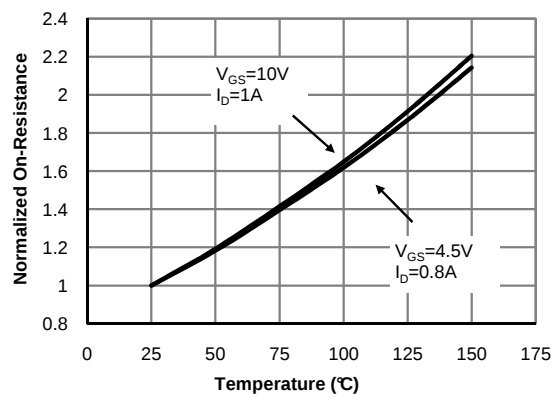


Figure 4: On-Resistance vs. Junction Temperature (Note E)

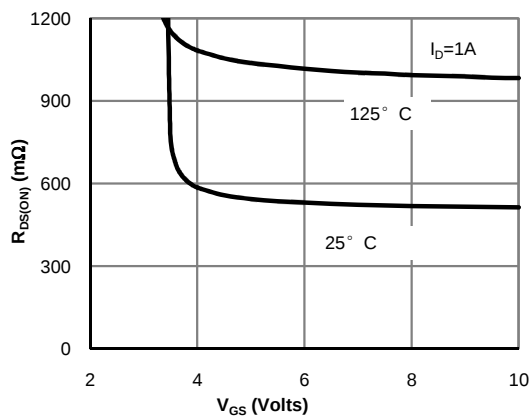


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

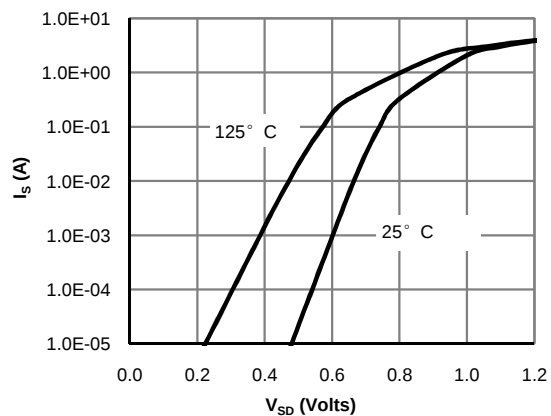
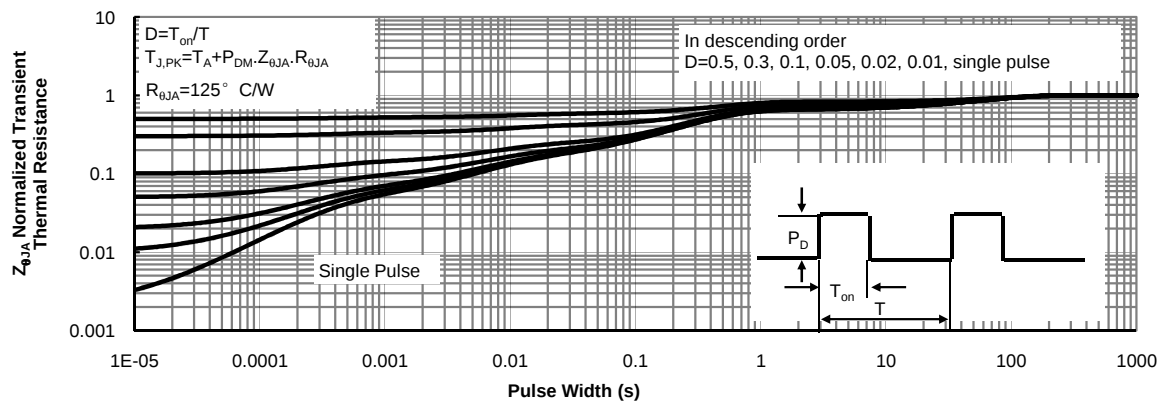
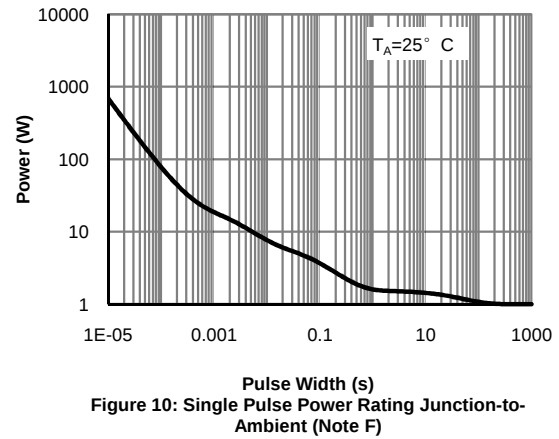
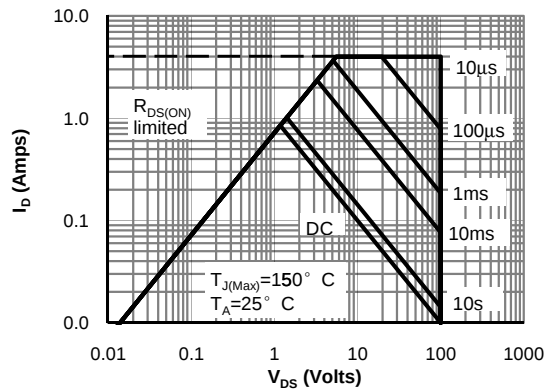
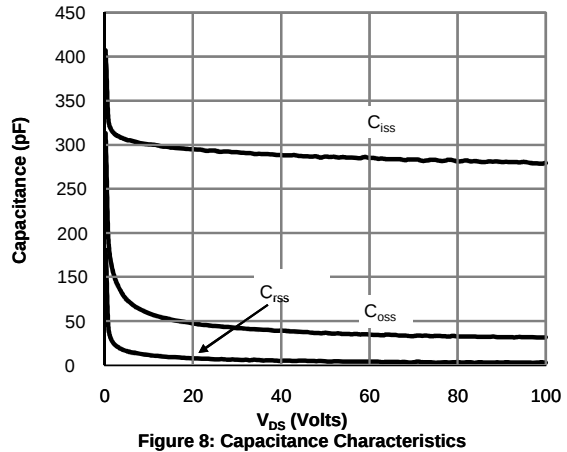
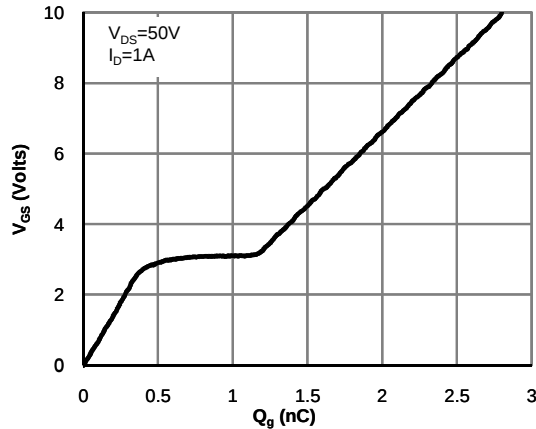
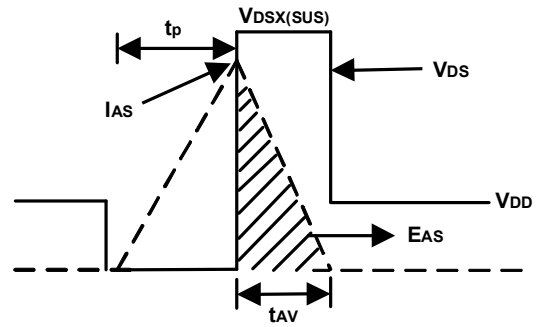
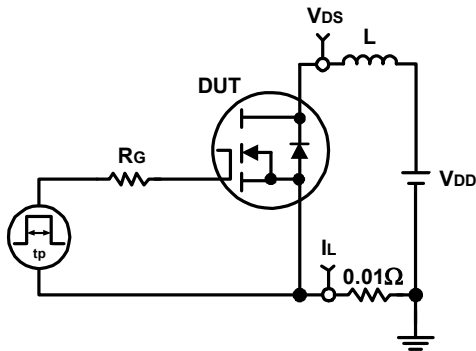


Figure 6: Body-Diode Characteristics (Note E)

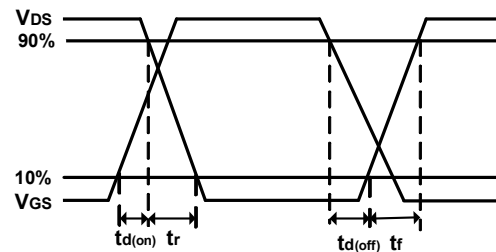
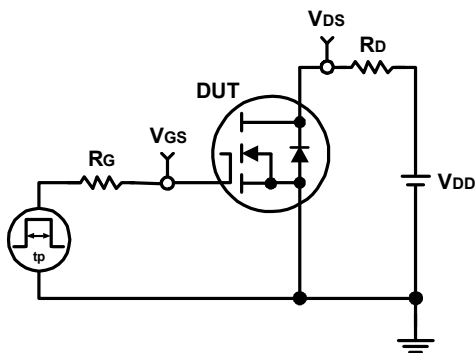
TYPICAL CHARACTERISTICS (contin)



Avalanche Test Circuit and Waveforms

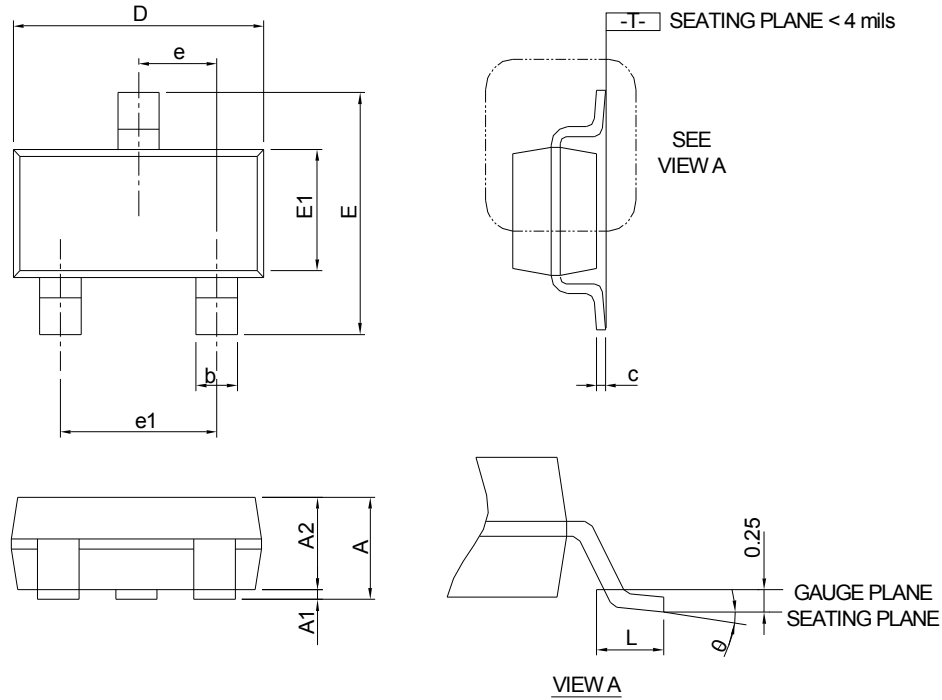


Switching Time Test Circuit and Waveforms



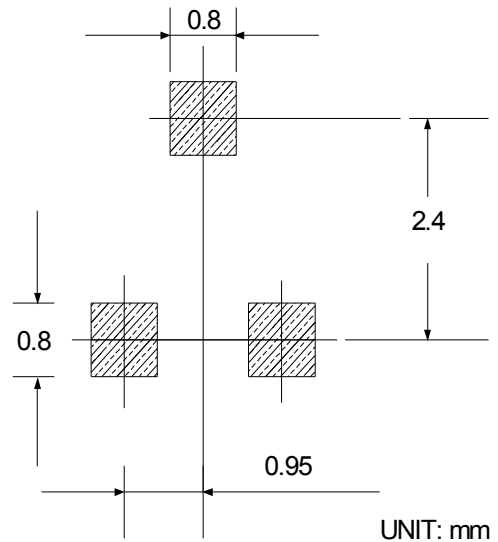
Package Information

SOT23-3L



SYMBOL	SOT 23-3L			
	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°

RECOMMENDED LAND PATTERN



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.