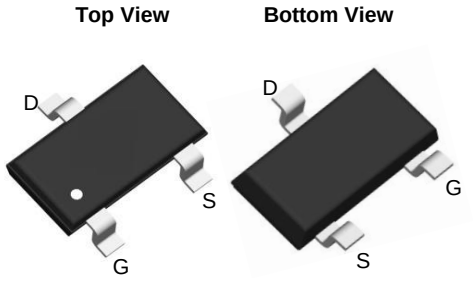
P-Channel Enhancement Mode MOSFET

Features

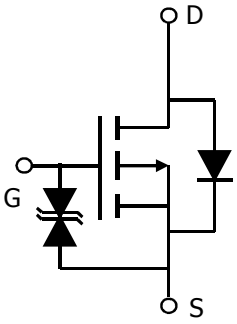
- -30V / -4.3A
- $R_{DS(ON)}$=33mΩ (typ) @VGS=10V
  $R_{DS(ON)}$=55mΩ (typ) @VGS=4.5V
- 100% UIS & RG Tested
- Reliableand Rugged
- Lead Freeand Green Devices Available (RoHS Compliant)

SOT23-3L



Applications

- Power Management for Industrial DC/DC Converters



P Channel

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

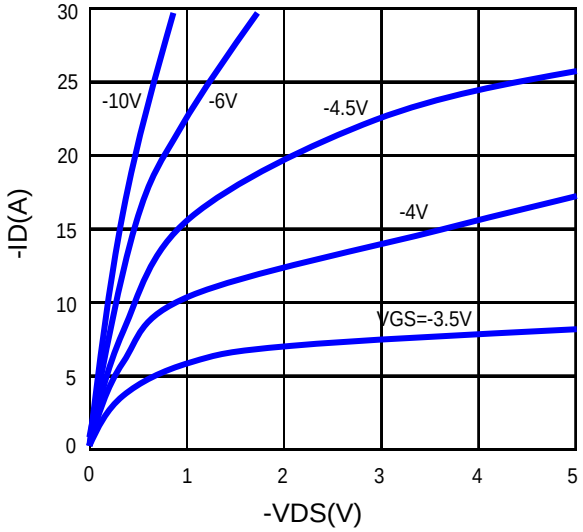
Symbol	Parameter		Rating	Unit
Common Ratings				
V_{DSS}	Drain-Source Voltage		-30	V
V_{GSS}	Gate-Source Voltage		±20	
I_D	Continuous Drain Current (V_{GS}=-4.5V)	TJ=150°C	-4.3	A
I_{DM}	Pulsed Drain Current		-25	A
I_S	Diode Continuous Forward Current		-2	
T_{STG}, T_j	Storage Temperature Range		-55 to 150	°C
P_D	Power Dissipation	T_A=25°C	1.4	W
		T_A=70°C	0.9	
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient[4)]		120	°C/W

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

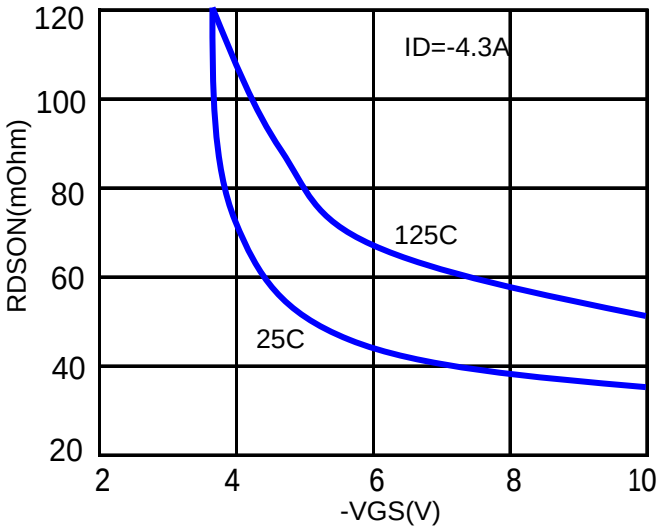
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_{DS}=250μA	-30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} =-30V, V_{GS}=0V	-	-	-1	μA
		V_{DS} =-30V, V_{GS}=0V,T	-		-10	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} =V_{GS}, I_{DS}=-250μA	-2.2	-	-1.2	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}=-4.3A	-	50	65	mΩ
		V_{GS}=-4.5V, I_{DS}=-3A	-	65	75	
		V_{GS}=-2.5V, I_{DS}=-2.5A	-	66	85	
Body Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_{SD}=-1A, V_{GS}=0V	-	-0.7	-1.0	V
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS} =-15V, Frequency=1.0MHz	-	655	-	pF
C_{oss}	Output Capacitance		-	195	-	
C_{rss}	Reverse transfer capacitance		-	82	-	
$t_{d(ON)}$	Turn-on delay Time	VGS=-10V ,VDS=-15V RG=6Ω, ID=-1A R_L=15Ω	-	12	-	nS
t_r	Turn-on rise Time		-	6	-	
$t_{d(OFF)}$	Turn-off delay Time		-	26	-	
t_f	Turn-off rise Time		-	11	-	
Gate Charge Characteristics						
Q_g	Total Gate Charge	V_{DS} =-15V, V_{GS}=-10V, I_{DS}=-4A	-	9	-	nC
Q_{gs}	Gate-Source Charge		-	2	-	
Q_{gd}	Gate-Drain Charge		-	3.5	-	

■ *TYPICAL CHARACTERISTICS (25℃ Unless Note)*

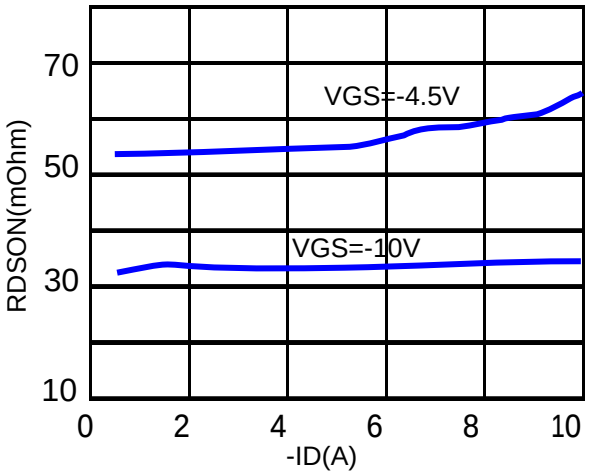
Output Characteristics



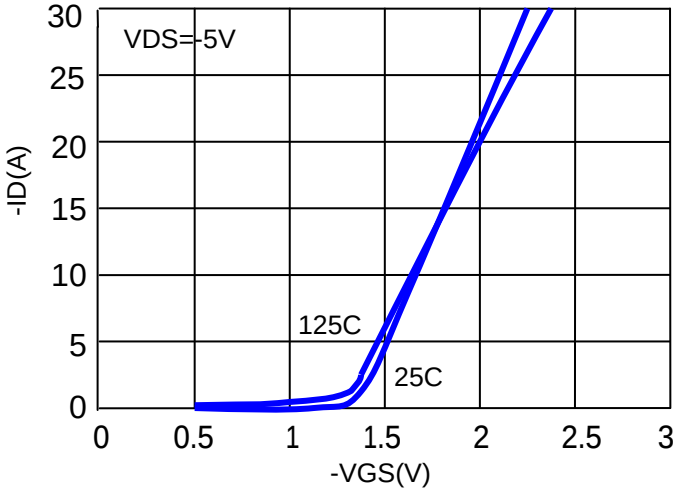
Drain-Source On Resistance



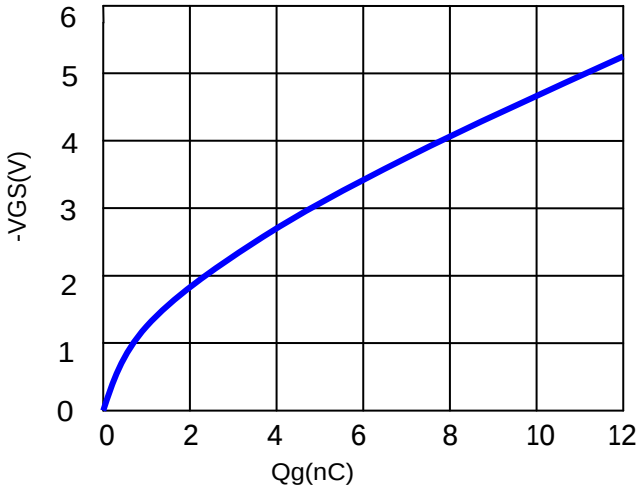
Drain-Source On Resistance



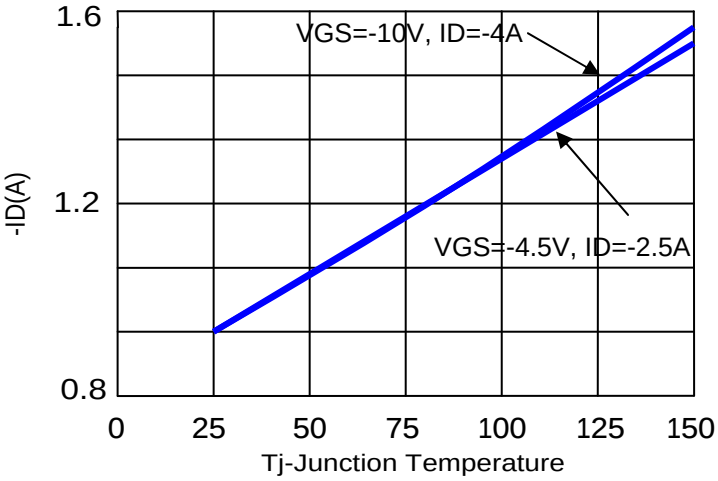
Transfer Characteristics



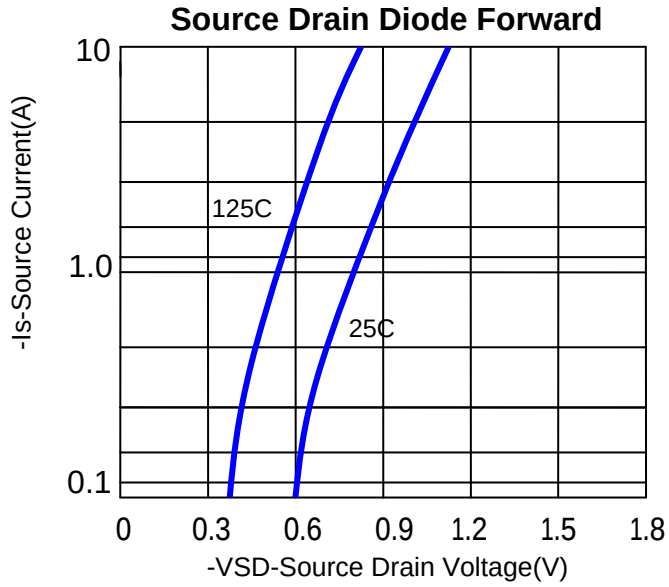
Gate Charge

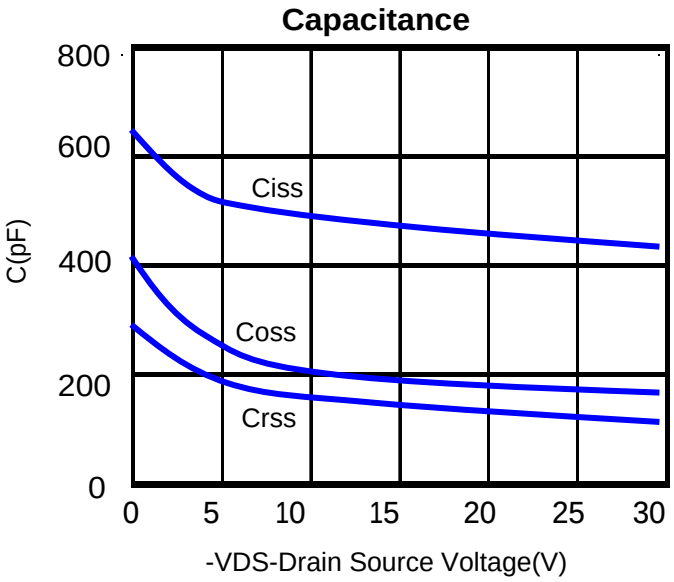


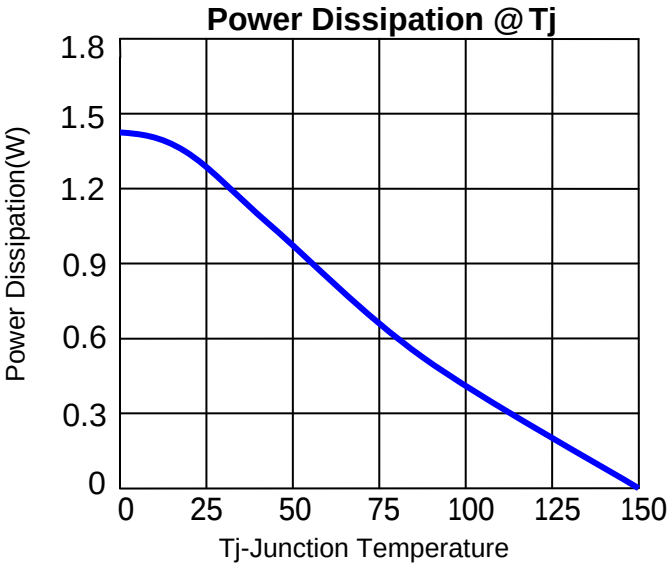
RON @ Junction Temperature

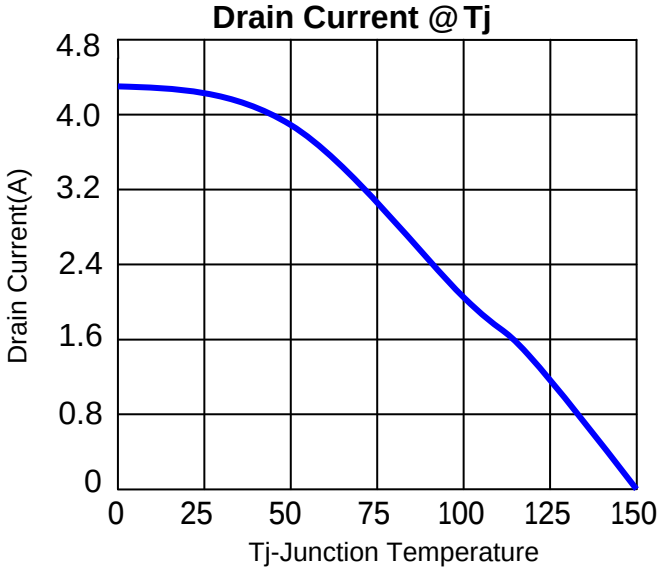


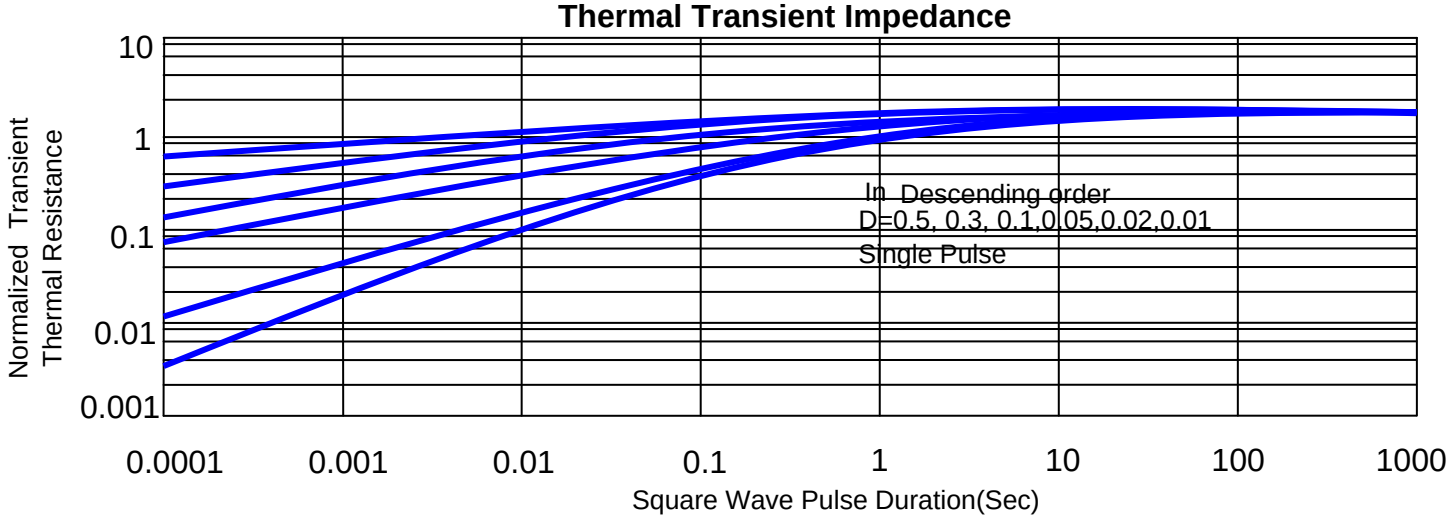
■ *TYPICAL CHARACTERISTICS (continuous)*



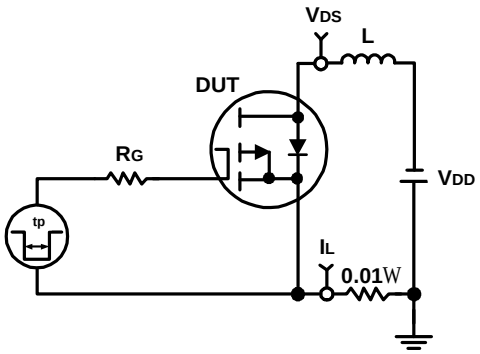


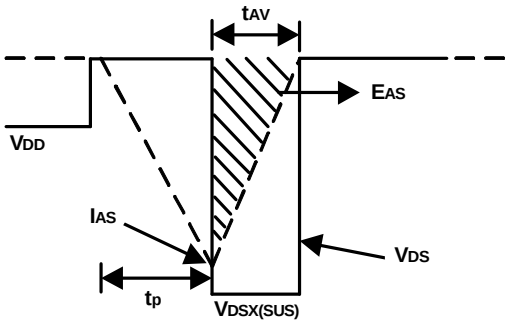




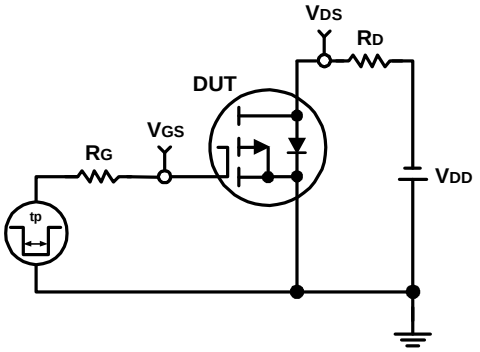


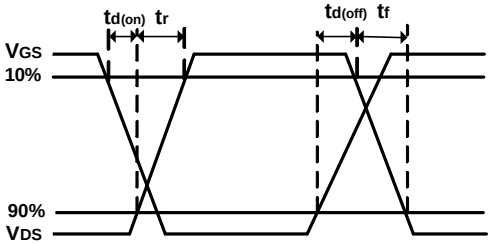
Avalanche Test Circuit and Waveforms



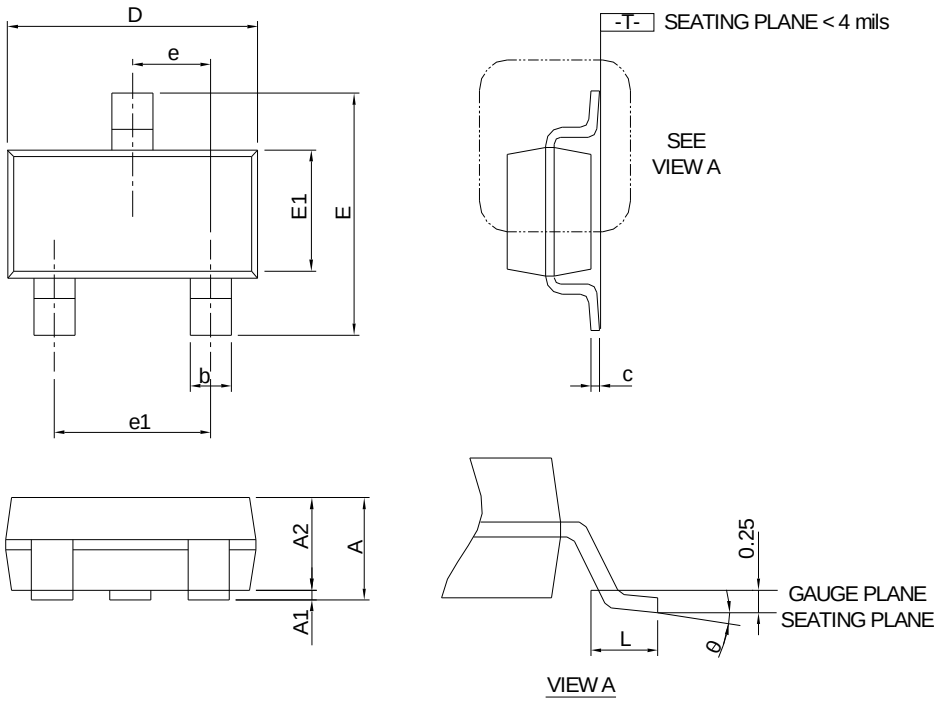


Switching Time Test Circuit and Waveforms





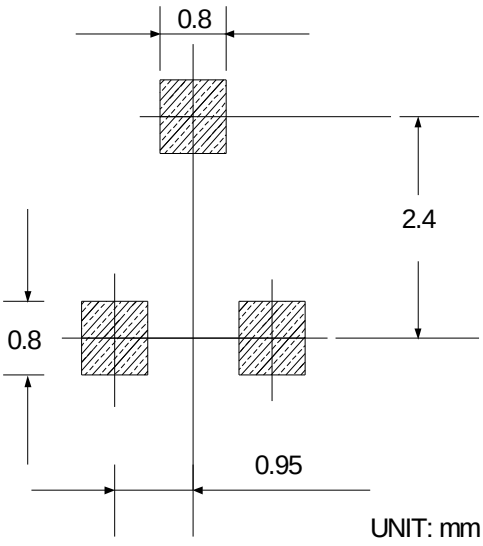
■ *SOT23-3L PACKAGE OUTLINE DIMENSIONS*



SYMBOL	SOT23-3			
	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



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