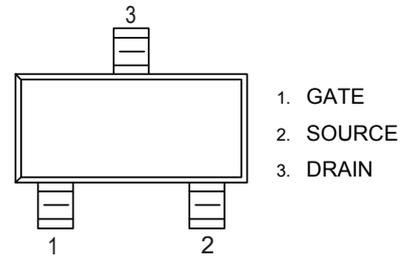


FEATURES

- Lead free product is acquired
- Surface mount package

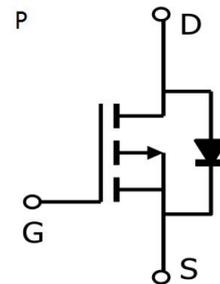
SOT-23-3L



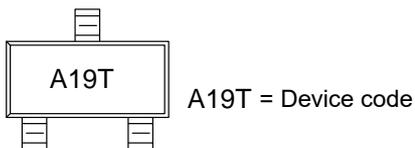
APPLICATION

- Load Switch and in PWM applications

Equivalent Circuit



Marking



Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-4.2	A
Power Dissipation	P_D	1.4	W
Thermal Resistance from Junction to Ambient (t<5s)	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

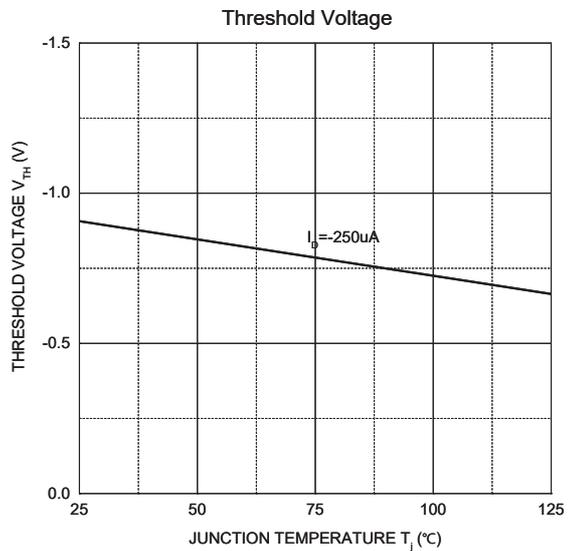
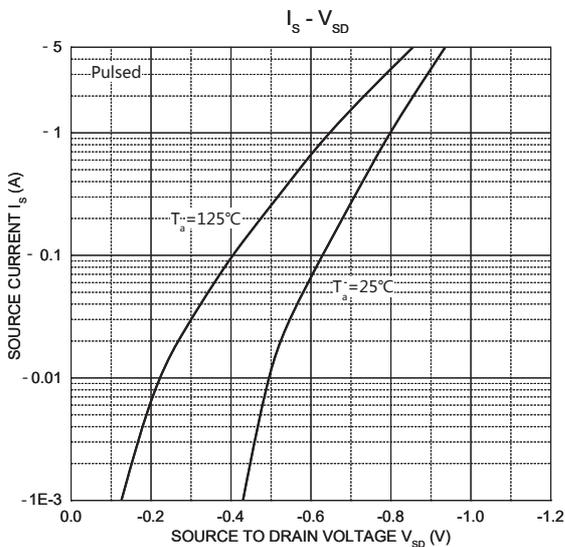
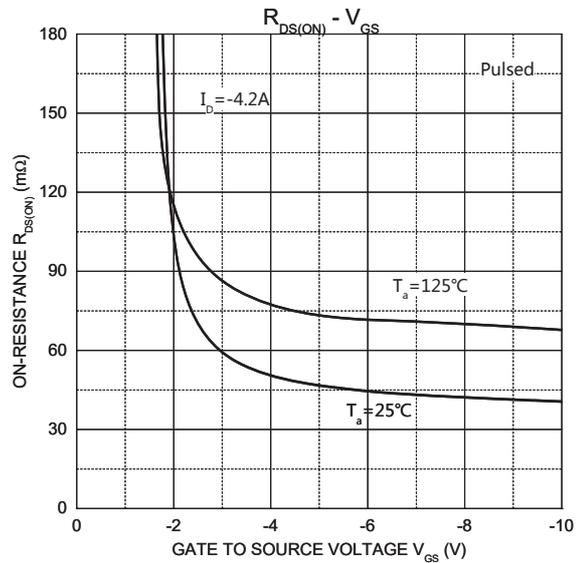
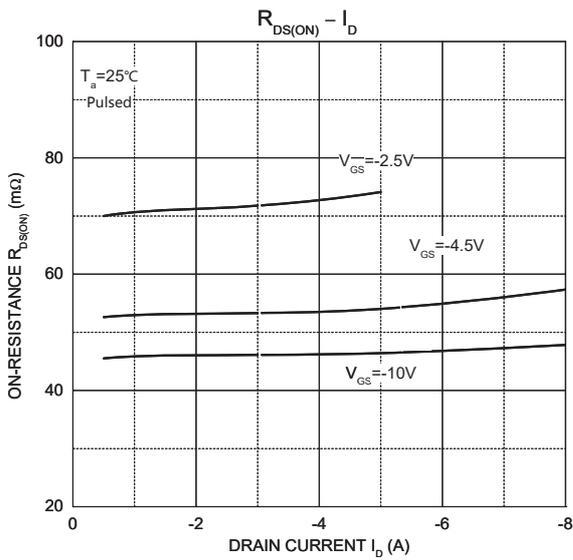
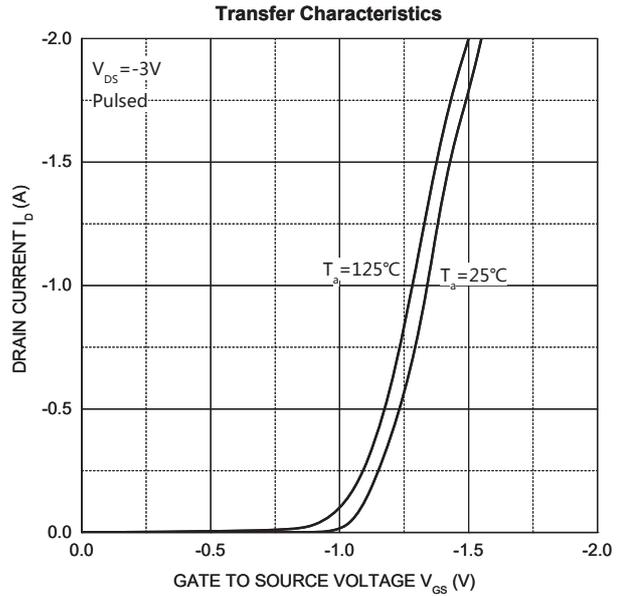
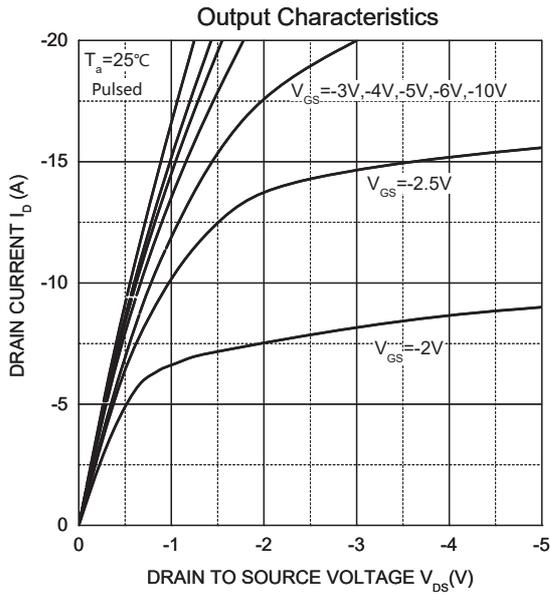
MOSFET ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ³	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.7	-0.9	-1.3	V
Drain-source on-resistance ³	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.2A$		43	65	m Ω
		$V_{GS} = -4.5V, I_D = -4A$		52	75	
		$V_{GS} = -2.5V, I_D = -1A$		72	90	
Forward transconductance ³	g_{FS}	$V_{DS} = -5V, I_D = -4.2A$		10		S
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		954		pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			77		
Switching characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V,$ $R_L = 3.6\Omega, R_{GEN} = 6\Omega$			6.3	ns
Turn-on rise time	t_r				3.2	
Turn-off delay time	$t_{d(off)}$				38.2	
Turn-off fall time	t_f				12	
Source-Drain Diode characteristics						
Diode forward current	I_S				-2	A
Diode pulsed forward current	I_{SM}				-15	A
Diode Forward voltage ³	V_{DS}	$V_{GS} = 0V, I_S = -4.2A$			-1.2	V

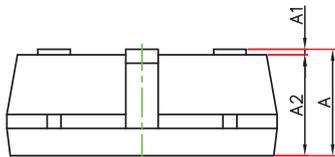
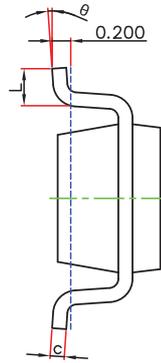
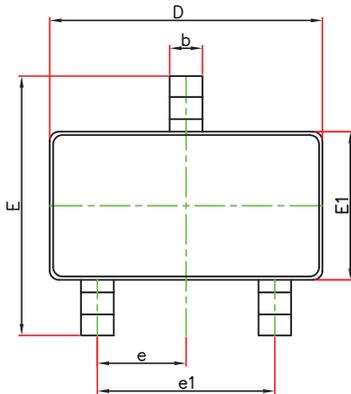
Notes:

1. The maximum current rating is limited by package.
2. Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
3. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.
5. Device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Electrical and Thermal Characteristics

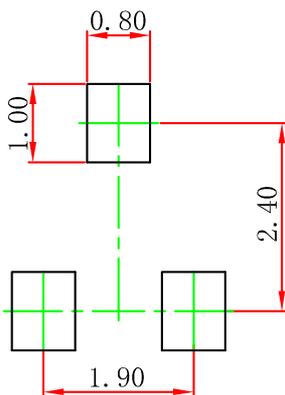


SOT-23-3L Package Outline Dimensions



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
K	0°	8°	0°	8°

SOT-23-3L Suggested Pad Layout



- Note:
1. Controlling dimension: in/millimeters.
 2. General tolerance: ±0.05mm.
 3. The pad layout is for reference purposes only.