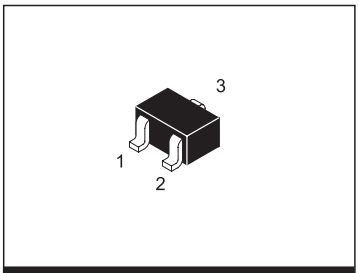
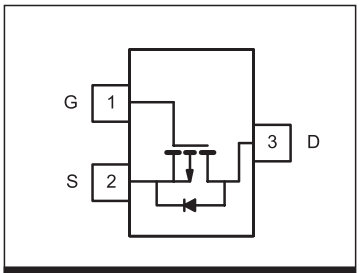
P-Channel Enhancement Mode Mosfet

FEATURES

- Higher Efficiency Extending Battery Life
- Miniature SOT23-3 Surface Mount Package
- Super high density cell design for extremely low RDS (ON)



SOT23-3 PACKAGE



PIN CONFIGURATION

APPLICATIONS

- DC/DC Converter
- Load Switch
- Battery Powered System
- LCD Display inverter
- Power Management in Portable, Battery Powered Products

ABSOLUTE MAXIMUM RATINGS TA = 25 °C, unless otherwise noted

Parameter		Symbol	5 s	Steady State	Unit
Drain-Source Voltage		VDS	-20		V
Gate-Source Voltage		VGS	± 8		
Continuous Drain Current (TJ = 150 °C)[a]	TA=25°C	ID	-4.3	-3.5	A
	TA=80°C		-3.2	-2.5	
Pulsed Drain Current		IDM	-20		
Continuous Source Current (Diode Conduction) [a]		IS	-1.7	-1	
Maximum Power Dissipation [a]	TA=25°C	PD	1.25	0.75	W
	TA=80°C		0.7	0.42	
Operating Junction and Storage Temperature Range		TJ, Tstg	- 55 to 150		°C

a. Surface Mounted on FR4 Board using 1 in sq pad size,2oz Cu.

THERMAL RESISTANCE RATINGS

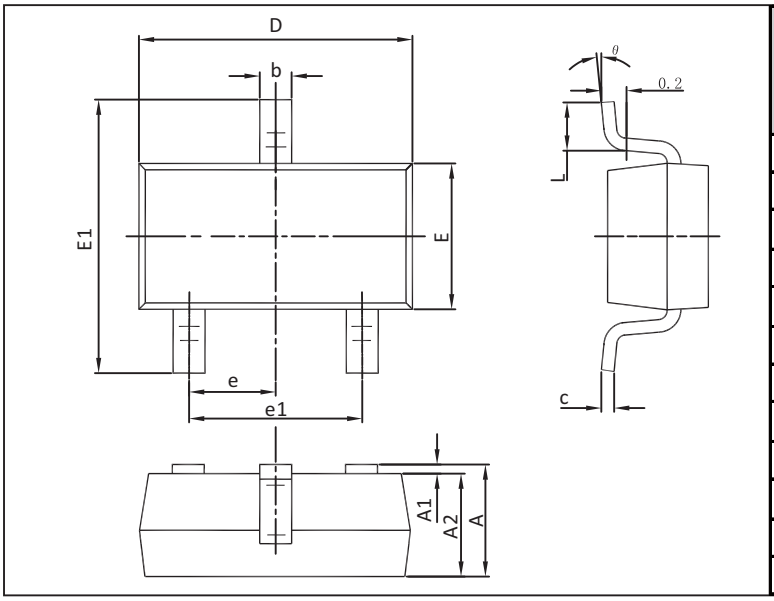
Parameter		Symbol	Typical	Maximum	Unit
Junction-to-Ambient Thermal Resistance [b]	t≤5 s	$R_{\theta JA}$	75	100	°C/W
	Steady State		125	165	

b. Surface Mounted on FR4 Board using 1 in sq pad size, 2oz Cu.

MOSFET ELECTRICAL CHARACTERISTICS(Tj=25 °C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BVDSS	VGS = 0V, ID = -250uA	-20			V
Zero Gate Voltage Drain Current	IDSS	VDS = -16V, VGS = 0V			-1	uA
Gate –Source leakage current	IGSS	VGS = ±8V, VDS = 0V			±100	nA
On Characteristics						
Gate Threshold Voltage	VGS(th)	VGS = VDS, ID = -250uA	-0.35	-0.63	-1	V
Static Drain-Source On-Resistance	RDS(on)	VGS = -4.5V, ID = -3.3A		52	61	mohm
		VGS = -2.5V, ID = -2.8 A		65	71	mohm
Forward Transconductance	gFS	VDS = -5 V, ID = -3.3A		3		S
Dynamic Characteristics						
Input Capacitance	Ciss	VDS = -6 V, VGS = 0V, f = 1.0 MHz			700	pF
Output Capacitance	Coss				160	pF
Reverse Transfer Capacitance	Crss				120	pF
Switching Characteristics						
Turn-On Delay Time	td(on)	VGS = -4.5V, VDD = -6 V, ID = -1.0A, RG=6.0ohm			25	ns
Turn-On Rise Time	tr				55	ns
Turn-Off Delay Time	td(off)				90	ns
Turn-Off Fall Time	tf				60	ns
Total Gate Charge	QG(TOT)	VDS = -6 V, I D = -3.3A, VGS = -4.5V		8	13	nC
Threshold gate charge	QG(TH)			0.2		nC
Gate-Source Charge	QGS			1.2		nC
Gate-Drain Charge	QGD			2.2		nC
Drain-Source Diode Characteristics and Maximun Ratings						
Forward Diode Voltage	VSD	VGS = 0V, IS = -1.6A		-0.8		V

PACKAGE OUTLINE DIMENSIONS



SYMBOL	Millimeters		Inches	
	Min	Max	Min	Max
A	1.05	1.25	0.041	0.049
A1	0	0.1	0	0.004
A2	1.05	1.15	0.041	0.045
b	0.3	0.5	0.012	0.02
c	0.1	0.2	0.004	0.008
D	2.82	3.02	0.111	0.119
E	1.5	1.7	0.059	0.067
E1	2.65	2.95	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.8	2	0.071	0.079
L	0.3	0.6	0.012	0.024
θ	0°	8°	0°	8°

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