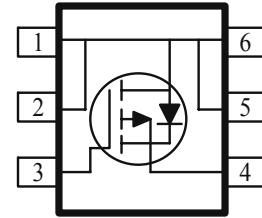
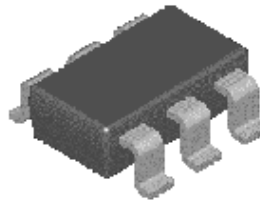


### P-Channel 20-V (D-S) MOSFET

These miniature surface mount MOSFETs utilize High Cell Density process. Low  $r_{DS(on)}$  assures minimal power loss and conserves energy, making this device ideal for use in power management circuitry. Typical applications are PWMDC-DC converters, power management in portable and battery-powered products such as computers, printers, battery charger, telecommunication power system, and telephones power system.

- Low  $r_{DS(on)}$  Provides Higher Efficiency and Extends Battery Life
- Miniature TSOP-6 Surface Mount Package Saves Board Space
- High power and current handling capability



PRODUCT SUMMARY		
V <sub>DS</sub> (V)	r <sub>DS(on)</sub> m(Ω)	I <sub>D</sub> (A)
-26.5	56 @ V <sub>GS</sub> = -4.5V	-4.9
	80 @ V <sub>GS</sub> = -2.5V	-4.2

ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)				
Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V <sub>DS</sub>	-26.5	V
Gate-Source Voltage		V <sub>GS</sub>	±12	
Continuous Drain Current <sup>a</sup>	T <sub>A</sub> =25°C	I <sub>D</sub>	-4.9	A
	T <sub>A</sub> =70°C		-4.0	
Pulsed Drain Current <sup>b</sup>		I <sub>DM</sub>	±20	
Continuous Source Current (Diode Conduction) <sup>a</sup>		I <sub>S</sub>	-1.7	A
Power Dissipation <sup>a</sup>	T <sub>A</sub> =25°C	P <sub>D</sub>	2.0	W
	T <sub>A</sub> =70°C		1.3	
Operating Junction and Storage Temperature Range		T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C

THERMAL RESISTANCE RATINGS				
Parameter		Symbol	Maximum	Units
Maximum Junction-to-Ambient <sup>a</sup>	t ≤ 5 sec	R <sub>θJA</sub>	62.5	°C/W
			110	°C/W

Notes

- a. Surface Mounted on 1" x 1" FR4 Board.
- b. Pulse width limited by maximum junction temperature

SPECIFICATIONS (T <sub>A</sub> = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
<b>Static</b>						
Gate-Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 uA	-0.7			
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±12 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -21 V, V <sub>GS</sub> = 0 V			-1	uA
		V <sub>DS</sub> = -21 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55°C			-5	
On-State Drain Current <sup>A</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> = -4.5 V, V <sub>GS</sub> = -4.5 V	-15			A
Drain-Source On-Resistance <sup>A</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -4.9 A			56	mΩ
		V <sub>GS</sub> = -2.5 V, I <sub>D</sub> = -4.2 A			80	
Forward Transconductance <sup>A</sup>	g <sub>fs</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -4.9 A		11		S
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 1.7 A, V <sub>GS</sub> = 0 V		-0.8		V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -10 V, V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -4.9 A		25		nC
Gate-Source Charge	Q <sub>gs</sub>			2.4		
Gate-Drain Charge	Q <sub>gd</sub>			3.9		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = -10 V, R <sub>L</sub> = 6 Ω, I <sub>D</sub> = -1 A, V <sub>GEN</sub> = -4.5 V		22		nS
Rise Time	t <sub>r</sub>			35		
Turn-Off Delay Time	t <sub>d(off)</sub>			45		
Fall-Time	t <sub>f</sub>			25		

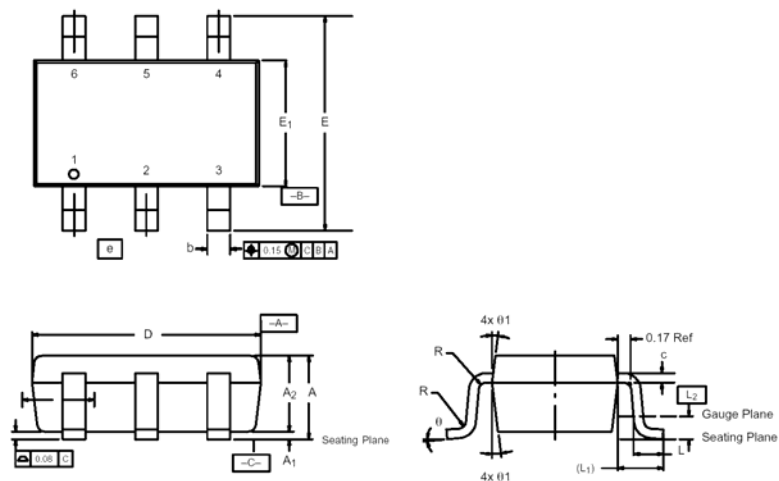
## Notes

- Pulse test: PW ≤ 300us duty cycle ≤ 2%.
- Guaranteed by design, not subject to production testing.

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### Package Information

#### TSOP-6: 6LEAD



Dim	MILLIMETERS			INCHES		
	Min	Nom	Max	Min	Nom	Max
<b>A</b>	0.91	–	1.10	0.036	–	0.043
<b>A<sub>1</sub></b>	0.01	–	0.10	0.0004	–	0.004
<b>A<sub>2</sub></b>	0.84	–	1.00	0.033	0.038	0.039
<b>b</b>	0.30	0.32	0.45	0.012	0.013	0.018
<b>c</b>	0.10	0.15	0.20	0.004	0.006	0.008
<b>D</b>	2.95	3.05	3.10	0.116	0.120	0.122
<b>E</b>	2.70	2.85	2.98	0.106	0.112	0.117
<b>E<sub>1</sub></b>	1.55	1.65	1.70	0.061	0.065	0.067
<b>e</b>	1.00 BSC			0.0394 BSC		
<b>L</b>	0.35	–	0.50	0.014	–	0.020
<b>L<sub>1</sub></b>	0.60 Ref			0.024 Ref		
<b>L<sub>2</sub></b>	0.25 BSC			0.010 BSC		
<b>R</b>	0.10	–	–	0.004	–	–
<b>θ</b>	0°	4°	8°	0°	4°	8°
<b>θ<sub>1</sub></b>	7° Nom			7° Nom		