

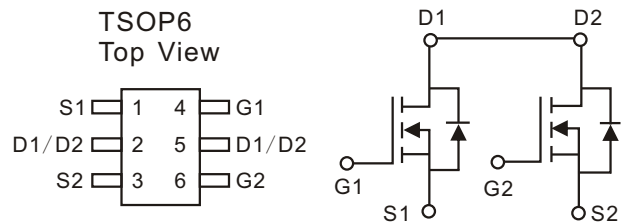


Dual N-Channel 20V(D-S) MOSFET

These miniature surface mount MOSFET 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 DC-DC converters, power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

- Low $R_{DS(on)}$ Provides Higher Efficiency and Extends Battery Life
- Low gate charge 7nC
- High performance
- High current handling
- Miniature TSOP-6 Surface Mount Package Saves Board Space

PRODUCT SUMMARY		
V_{DS} (V)	$R_{DS(on)}$ (ohm)	I_D (A)
20	0.023 @ $V_{GS} = 4.5V$	6.0
	0.033 @ $V_{GS} = 2.5V$	5.2



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 10	
Continuous Drain Current ^a	I_D	$T_A=25^\circ C$	5.8
		$T_A=70^\circ C$	3.7
Pulsed Drain Current ^b	I_{DM}	10	A
Continuous Source Current (Diode Conduction) ^a	I_S	0.46	A
Power Dissipation ^a	P_D	$T_A=25^\circ C$	1.25
		$T_A=70^\circ C$	0.8
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ C$

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	R_{THJA}	$t \leq 5$ sec	100
		Steady-State	166

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



SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Units
			Min	Typ	Max	
Static						
Drain–Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20			V
Gate–Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.5	0.80	1.5	
Gate–Body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} = ± 10V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V			1	μA
		V _{DS} =20V, V _{GS} =0V, T _J =55°C			10	
On–State Drain Current ^a	I _{D(on)}	V _{DS} =5V, V _{GS} =4.5V	10			A
Drain–Source On–Resistance ^a	R _{DS(on)}	V _{GS} =4.5V, I _D =6.0A	20	23	26	mΩ
		V _{GS} =2.5 V, I _D =5.2A	30	33	37	
Forward Transconductance ^a	g _{fs}	V _{DS} =5V, I _D =3.0A		11		S
Diode Forward Voltage	V _{SD}	I _S =2.00A, V _{GS} =0V		0.80	1.20	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V I _D = 4.0 A		11		nC
Gate–Source Charge	Q _{gs}			2.20		
Gate–Drain Charge	Q _{gd}			2.50		
Switching						
Turn–On Delay Time	t _{d(on)}	V _{DD} =10V, I _D =1A, R _G =10 ohm, V _{GEN} =4.5V		9	17	ns
Rise Time	t _r			11	18	
Turn–Off Delay Time	t _{d(off)}			18	29	
Fall–Time	t _f			5	10	

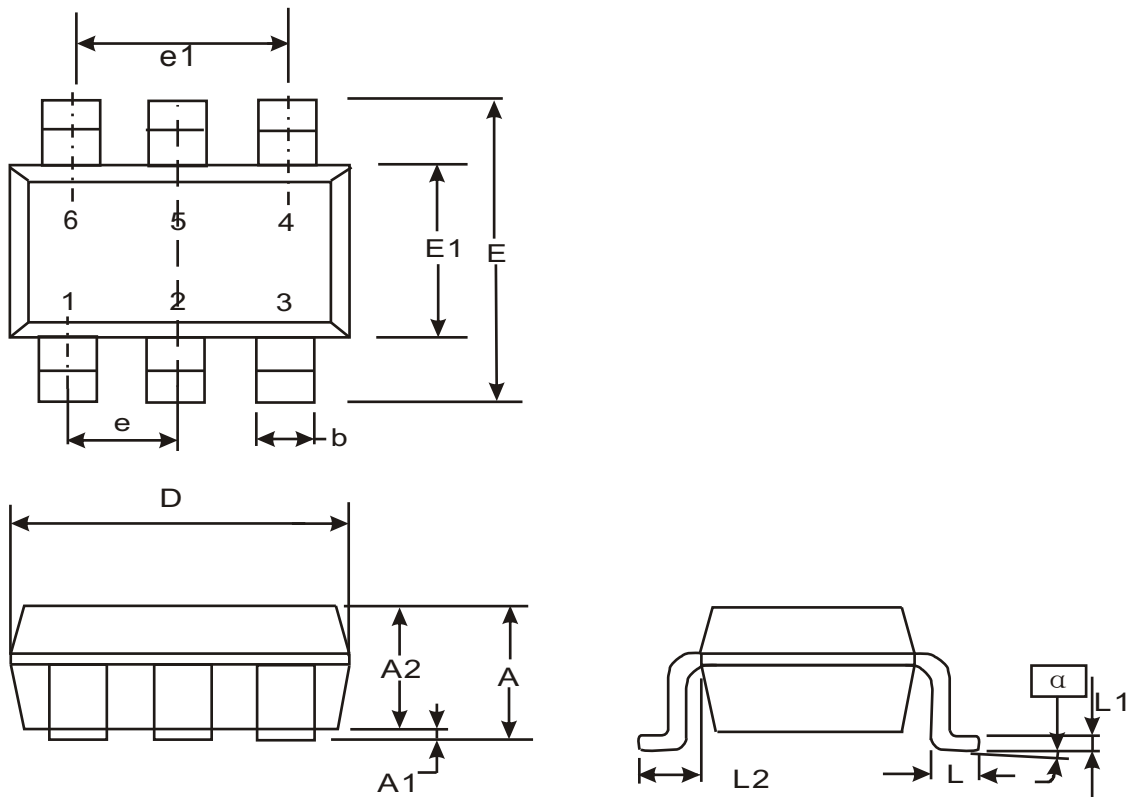
Notes: a. Pulse test: PW ≤ 300us duty cycle ≤ 2%.

b. Guaranteed by design, not subject to production testing.

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Packaging Information

TSOP-6



Dim	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.45	0.037	0.057
A1	0.05	0.15	0.002	0.006
A2	0.90	1.30	0.035	0.051
b	0.35	0.55	0.0138	0.0217
D	2.8	3.00	0.110	0.118
E	2.6	3.00	0.102	0.118
E1	1.5	1.70	0.059	0.067
e	0.95		0.037	
e1	1.90		0.075	
L	0.35	0.55	0.014	0.022
L1	0.20BSC		0.008BSC	
L2	0.5	0.7	0.020	0.028
α	0°	10°	0°	10°