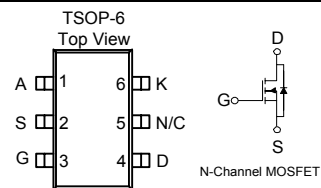


These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $r_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

- Low $r_{DS(on)}$ provides higher efficiency and extends battery life
- Low thermal impedance copper leadframe TSOP-6 saves board space
- Fast switching speed
- High performance trench technology

MOSFET PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (OHM)	I_D (A)
20	0.047 @ $V_{GS} = -4.5V$	± 4.1
	0.055 @ $V_{GS} = -2.5V$	± 3.8

SCHOTTKY PRODUCT SUMMARY		
V_{KA} (V)	V_f (V) Diode Forward Voltage	I_F (A)
20	0.48V @ 1.0A	1.0



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ UNLESS OTHERWISE NOTED)

Parameter	Symbol	Maximum	Units	
Drain-Source Voltage (MOSFET)	V_{DS}	20	V	
Reverse Voltage (Schottky)	V_{KA}	20		
Gate-Source Voltage (MOSFET)	V_{GS}	± 8		
Continuous Drain Current ($T_j=150^\circ C$) (MOSFET) ^a	I_D	$T_A=25^\circ C$	± 4.1	
		$T_A=70^\circ C$	± 3.3	
Pulsed Drain Current (MOSFET) ^b	I_{DM}	± 8	A	
Continuous Source Current (MOSFET Diode Conduction) ^a	I_S	1.05		
Average Forward Current (Schottky)	I_F	0.5		
Pulsed Forward Current (Schottky)	I_{FM}	8	W	
Maximum Power Dissipation (MOSFET) ^a	P_D	$T_A=25^\circ C$		1.15
		$T_A=70^\circ C$		0.7
Maximum Power Dissipation (Schottky) ^a	P_D	$T_A=25^\circ C$		1.0
		$T_A=70^\circ C$	0.6	
Operating Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^\circ C$	

THERMAL RESISTANCE RATINGS

Parameter	Symbol	Typ	Max	
Maximum Junction-to-Ambient ^a	R_{thJA}	t <= 10 sec	93	$^\circ C/W$
		Steady State	130	

Notes

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

MOSFET SPECIFICATIONS (T_A = 25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Static						
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.4			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = +/-8 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16 V, V _{GS} = 0 V			1	μA
		V _{DS} = 16 V, V _{GS} = 0 V, T _J = 55°C			10	
On-State Drain Current ^A	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 4.5 V	5			A
Drain-Source On-State Resistance ^A	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 4.1 A			0.047	Ω
		V _{GS} = 2.5 V, I _D = 3.8 A			0.055	
Forward Transconductance ^A	g _{fs}	V _{DS} = 5 V, I _D = 4.1 A		3		S
Diode Forward Voltage	V _{SD}	I _S = 1.05 A, V _{GS} = 0 V		0.80		V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = 10 V, V _{GS} = 4.5 V, I _D = 4.1 A		7.5		nC
Gate-Source Charge	Q _{gs}			0.6		
Gate-Drain Charge	Q _{gd}			1.0		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 5 V, R _L = 5 Ω, V _{GEN} = 4.5 V, R _G = 6 Ω		5		ns
Rise Time	t _r			12		
Turn-Off Delay Time	t _{d(off)}			13		
Fall-Time	t _f			7		

SCHOTTKY SPECIFICATIONS (T_A = 25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Forward Voltage Drop	V _F	I _F = 0.5 A			0.48	V
		I _F = 0.5 A, T _J = 125°C			0.4	V
Maximum Reverse Leakage Current	I _{rm}	V _r = 30 V			0.1	mA
		V _r = 30 V, T _J = 75°C			1	
		V _r = 30 V, T _J = 125°C			10	
Junction Capacitance	C _T	V _r = 10 V		31		pF

Notes

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