

Dual N-Channel 60-V (D-S) MOSFET

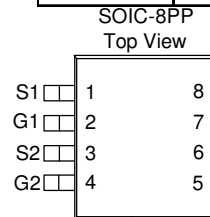
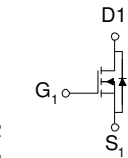
These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $r_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, and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

- Low $r_{DS(on)}$ provides higher efficiency and extends battery life
- Low thermal impedance copper leadframe SOIC-8PP saves board space
- Fast switching speed
- High performance trench technology

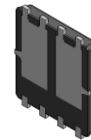


RoHS
COMPLIANT
HALOGEN
FREE

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ m(Ω)	I_D (A)
60	23 @ $V_{GS} = 10V$	22
	28 @ $V_{GS} = 4.5V$	20



N-Channel MOSFET N-Channel MOSFET

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

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	20	
Continuous Drain Current ^a	I_D	22	A
		18	
Pulsed Drain Current ^b	I_{DM}	± 50	
Continuous Source Current (Diode Conduction) ^a	I_S	13	A
Power Dissipation ^a	P_D	16	W
		10	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	$t \leq 10 \text{ sec}$	35	$^\circ\text{C/W}$
	Steady State	8	

Notes

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

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 _{GS} = V _{DS} , I _D = 250 uA	1			V
Gate-Body Leakage	I _{GSS}	V _{GS} = 20 V, V _{DS} = 0 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 48 V, V _{GS} = 0 V			1	uA
On-State Drain Current ^A	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	20			A
Drain-Source On-Resistance ^A	r _{DS(on)}	V _{GS} = 10 V, I _D = 1 A			23	mΩ
		V _{GS} = 4.5 V, I _D = 1 A			28	
Forward Tranconductance ^A	g _{fs}	V _{DS} = 15 V, I _D = 1 A		40		S
Dynamic						
Total Gate Charge	Q _g	N-Channel V _{DS} =15V, V _{GS} =4.5V, I _D =1A		10		nC
Gate-Source Charge	Q _{gs}			3		
Gate-Drain Charge	Q _{gd}			7		
Turn-On Delay Time	t _{d(on)}	N-Chaneel V _{DD} =15V, V _{GS} =10V, I _D =1A , R _{GEN} =25Ω		7		nS
Rise Time	t _r			10		
Turn-Off Delay Time	t _{d(off)}			50		
Fall-Time	t _f			10		

Notes

- Pulse test: $PW \leq 300\mu\text{s}$ duty cycle $\leq 2\%$.
- Guaranteed by design, not subject to production testing.

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