



N-Channel 60-V (D-S) Fast Switching MOSFET

PRODUCT SUMMARY

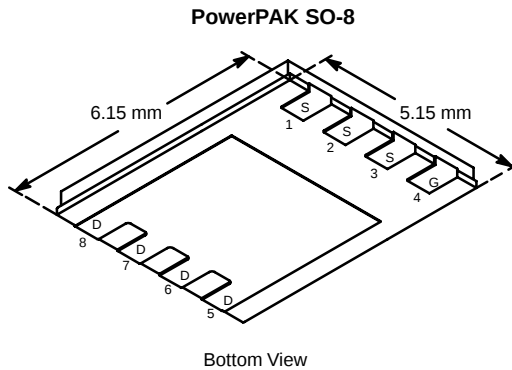
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
60	0.022 @ $V_{GS} = 10$ V	10.3
	0.031 @ $V_{GS} = 4.5$ V	8.7

FEATURES

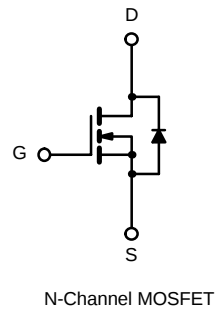
- TrenchFET® Power MOSFET
- New Low Thermal Resistance PowerPAK® Package with Low 1.07-mm Profile
- PWM Optimized for Fast Switching
- 100% R_g Tested

APPLICATIONS

- Primary Side Switch for 24-V DC/DC Applications
- Secondary Synchronous Rectifier



Ordering Information: Si7850DP-T1



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

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V _{DS}	60		V
Gate-Source Voltage		V _{GS}	± 20		
Continuous Drain Current (T _J = 150°C) ^a	T _A = 25°C	I _D	10.3	6.2	A
	T _A = 85°C		7.5	4.5	
Continuous Source Current		I _S	3.7	1.5	
Pulsed Drain Current		I _{DM}	40		
Avalanche Current ^b		I _{AS}	15		
Single Avalanche Energy ^b		E _{AS}	11		mJ
Maximum Power Dissipation ^a	T _A = 25°C	P _D	4.5	1.8	W
	T _A = 85°C		2.3	0.9	
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS

Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	$t \leq 10$ sec	R_{thJA}	22	28	$^\circ\text{C/W}$
	Steady State		58	70	
Maximum Junction-to-Case (Drain)	Steady State	R_{thJC}	2.6	3.3	

Notes

- Surface Mounted on 1" x 1" FR4 Board.
- Guaranteed by design, not subject to production testing.