Features

- High Density Cell Design for Low $R_{DS(on)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Dual N-Channel Power MOSFET

Maximum Ratings

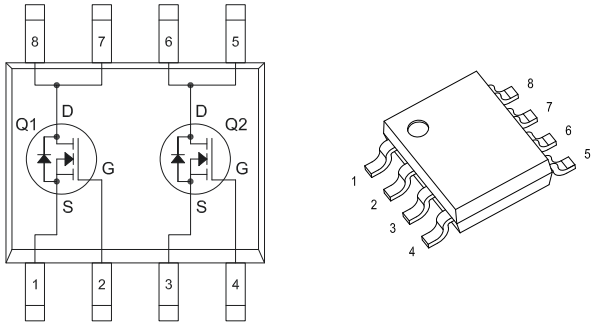
- Operating Junction Temperature Range : -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 107°C/W Junction to Ambient(Note 1)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Volltage	V_{GS}	±20	V
Continuous Drain Current	I_D	8	A
Pulsed Drain Current (Note 2)	I_{DM}	40	A
Total Power Dissipation	P_D	1.4	W

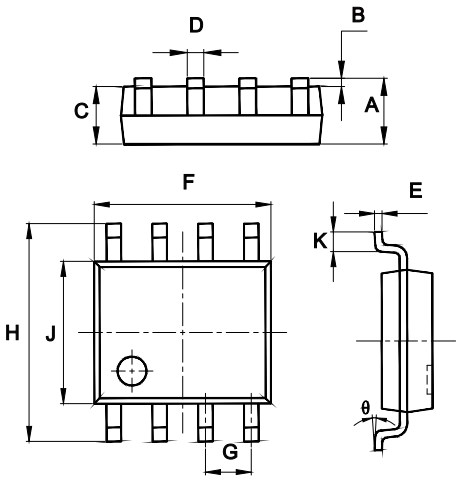
Note:

1. The Value of $R_{\theta JA}$ is Measured with the Device Mounted on 1 in^2 FR-4 Board with 2oz. Copper, in a Still Air Environment with T_A=25°C.
2. Repetitive Rating; Pulse Width Limited by Maximum Junction Temperature.

Internal Structure

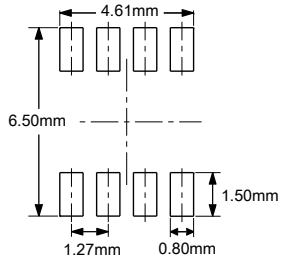


SOP-8



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.053	0.069	1.35	1.75	
B	0.004	0.010	0.10	0.25	
C	0.053	0.061	1.35	1.55	
D	0.013	0.020	0.33	0.51	
E	0.007	0.010	0.17	0.25	
F	0.185	0.200	4.70	5.10	
G	0.050		1.270		TYP.
H	0.228	0.244	5.80	6.20	
J	0.150	0.157	3.80	4.00	
K	0.016	0.050	0.40	1.27	
θ	0°	8°	0°	8°	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	60			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=48V, V_{GS}=0V			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1	1.7	3	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=10A		16	19.5	mΩ
		V_{GS}=4.5V, I_D=6A		21	28	
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=-8A			1.2	V
Continuous Body Diode Current	I_S				8	A
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=30V,V_{GS}=0V,f=1MHz		864		pF
Output Capacitance	C_{oss}			282		
Reverse Transfer Capacitance	C_{rss}			27		
Total Gate Charge	Q_g	V_{DS}=30V,V_{GS}=10V,I_D=10A		17		nC
Gate-Source Charge	Q_{gs}			3.1		
Gate-Drain Charge	Q_{gd}			4.3		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DS}=30V, R_G=6Ω, I_D=10A		3.4		ns
Turn-On Rise Time	t_r			5.2		
Turn-Off Delay Time	$t_{d(off)}$			13		
Turn-Off Fall Time	t_f			7		
Reverse Recovery Time	t_{RR}	I_F=10A, di/dt=100A/μs		22		ns
Reverse Recovery Charge	Q_{RR}			11		nC

Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 4Kpcs/Reel

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF