

## 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)

## Maximum Ratings

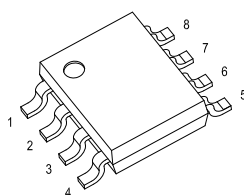
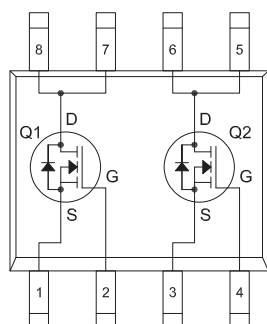
- Operating Junction Temperature Range : -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 107°C/W Junction to Ambient<sup>(Note 1)</sup>

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

Note:

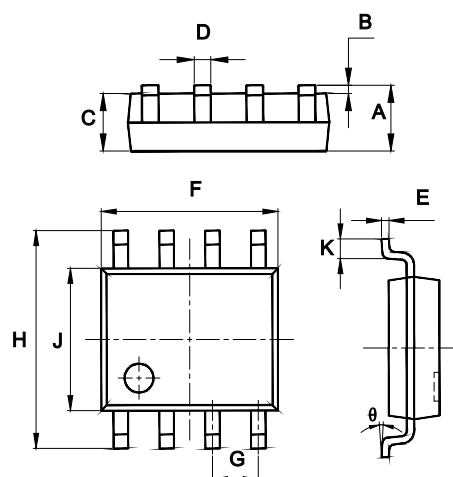
1. The Value of  $R_{\theta JA}$  is Measured with the Device Mounted on 1 in<sup>2</sup> FR-4 Board with 2oz. Copper, in a Still Air Environment with  $T_A=25^\circ\text{C}$ .
2. Repetitive Rating; Pulse Width Limited by Maximum Junction Temperature.

## Internal Structure



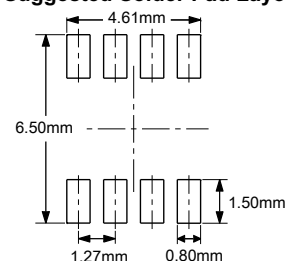
## Dual N-Channel Power MOSFET

### SOP-8



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
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate-Source Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=48V, V_{GS}=0V$			1	$\mu A$
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.7	3	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$		16	19.5	m $\Omega$
		$V_{GS}=4.5V, I_D=6A$		21	28	
Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V, I_S=-8A$			1.2	V
Continuous Body Diode Current	$I_S$				8	A
<b>Dynamic Characteristics</b>						
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	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=30V, R_G=6\Omega, I_D=10A$		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	$t_{RR}$	$I_F=10A, di/dt=100A/\mu s$		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

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