

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

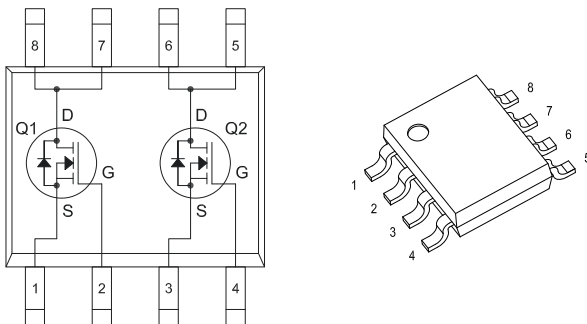
- Operating Junction Temperature Range : -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 107°C/W Junction to Ambient^(Note 1)

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 ^(Note 2)	I_{DM}	40	A
Total Power Dissipation	P_D	1.4	W

Note:

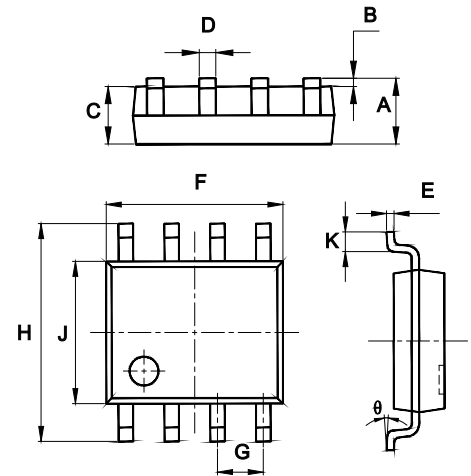
1. The Value of $R_{\theta JA}$ is Measured with the Device Mounted on 1 in² FR-4 Board with 2oz. Copper, in a Still Air Environment with $T_A=25^\circ\text{C}$.
2. Repetitive Rating; Pulse Width Limited by Maximum Junction Temperature.

Internal Structure



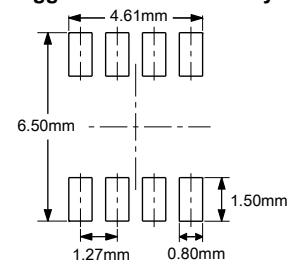
Dual N-Channel Power MOSFET

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
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=48V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.7	3	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$		16	19.5	m Ω
		$V_{GS}=4.5V, I_D=6A$		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	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=30V, R_G=6\Omega, I_D=10A$		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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