Features

- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"

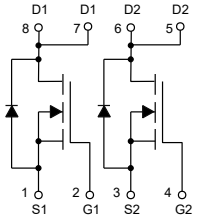
Dual N-Channel Power MOSFET

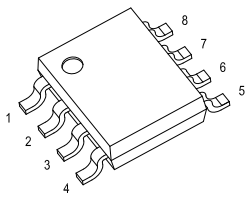
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 100°C/W Junction to Ambient

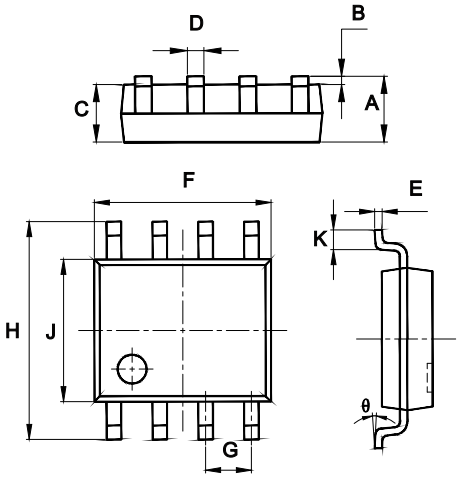
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Volltage	V_{GS}	±20	V
Drain Current (t ≤10s)(Note1)	I_D	4.5	A
Pulsed Drain Current(Note2)	I_{DM}	20	A
Repetitive Avalenche Energy 0.1mH(Note2)	E_{AR}, E_{AS}	18	mJ
Total Power Dissipation	P_D	1.25	W

Internal Structure:



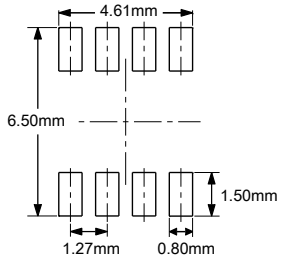


SOP-8



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}=60V, V_{GS}=0V			1	μA
Gate-Threshold Voltage(Note 3)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1	2.1	3	V
Drain-Source On-Resistance(Note 3)	$R_{DS(on)}$	V_{GS}=10V, I_D=4.5A		40	56	mΩ
		V_{GS}=4.5V, I_D=3A		55	77	
Forward Tranconductance(Note 3)	g_{FS}	V_{DS}=5V, I_D=4.5A	6			S
Diode Forward Voltage(Note 3)	V_{SD}	V_{GS}=0V, I_S=1A			1	V
Dynamic Characteristics(Note 4)						
Input Capacitance	C_{iss}	V_{DS}=30V,V_{GS}=0V,f=1MHz			540	pF
Output Capacitance	C_{oss}			60		
Reverse Transfer Capacitance	C_{rss}			25		
Switching Characteristics(Note 4)						
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DS} =30V R_{GEN}=3Ω, R_L=6.7Ω		4.7		ns
Turn-On Rise Time	t_r			2.3		
Turn-Off Delay Time	$t_{d(off)}$			15.7		
Turn-Off Fall Time	t_f			1.9		
Total Gate Charge (10V)	Q_g	V_{GS}=10V, V_{DS} =30V I_D=4.5A			10.5	nC
Total Gate Charge (4.5V)					5.5	
Gate-Source Charge	Q_{gs}			1.6		
Gate-Drain Charge	Q_{gd}			2.2		

Notes :

1. The Value In Any Given Application Depends On The User's Specific Board Design.
2. Repetitive Rating : Pulse Width Limited by Junction Temperature.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤0.5%.
4. These Parameters Have No Way to Verify.

Curve Characteristics

Fig. 1 - Output Characteristics

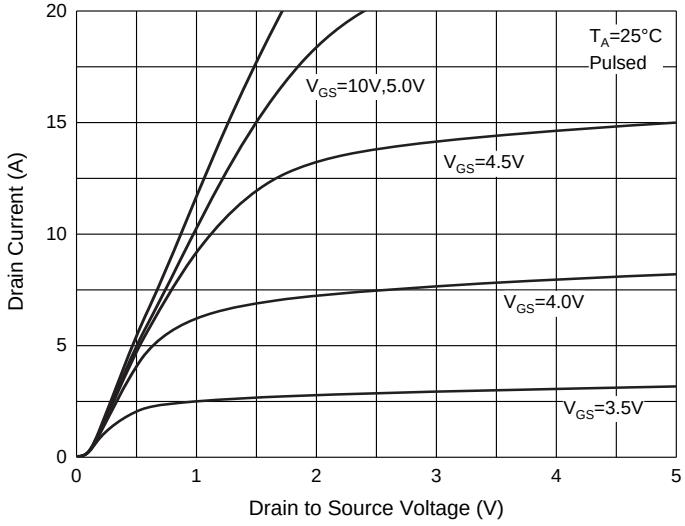


Fig. 2 - Transfer Characteristics

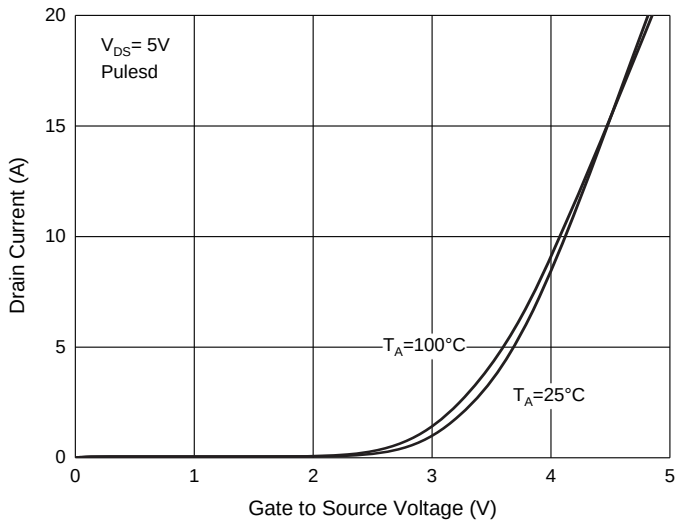


Fig. 3 - $R_{DS(ON)}$—I_D

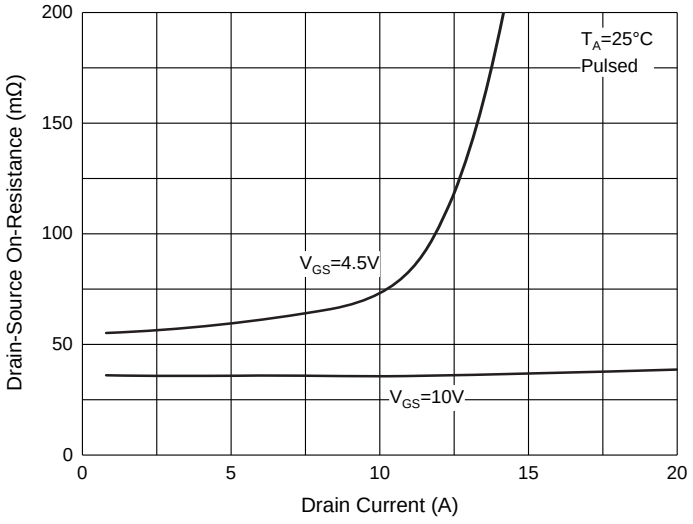


Fig. 4 - $R_{DS(ON)}$—V_{GS}

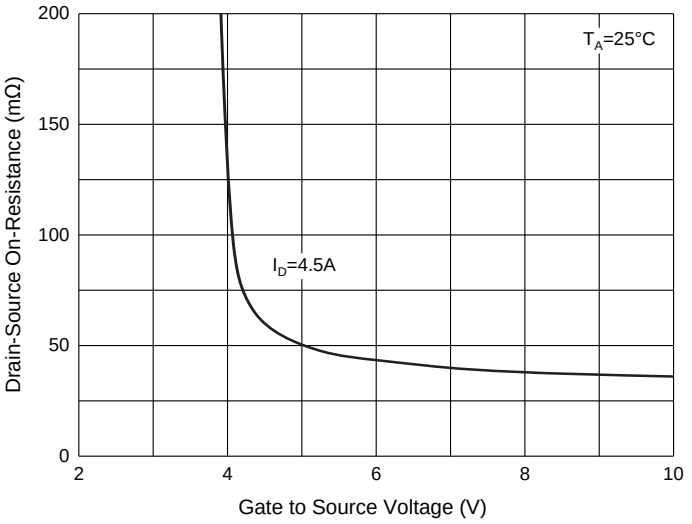


Fig. 5 - I_S—V_{SD}

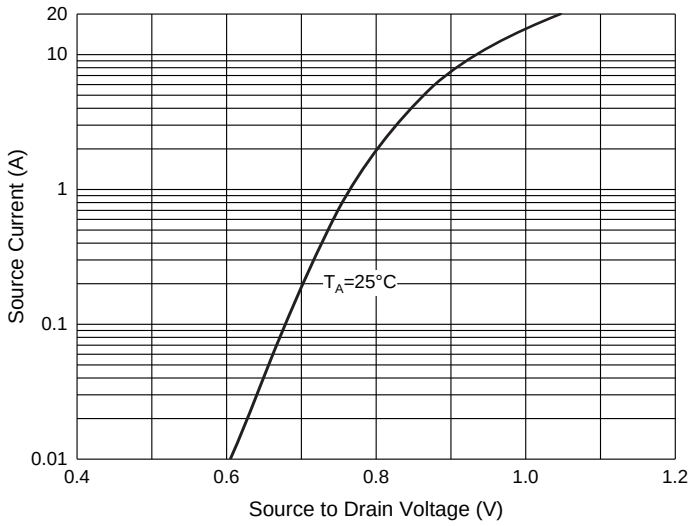
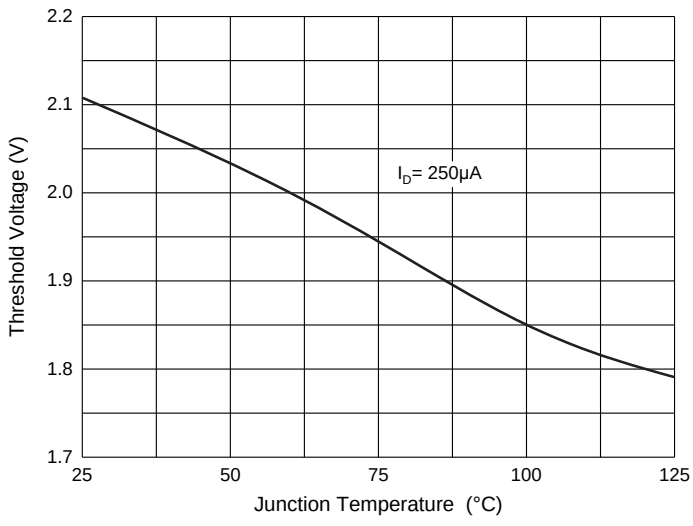


Fig. 6 - Threshold Voltage



Ordering Information

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

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