

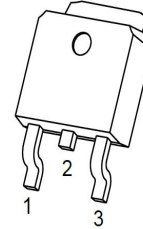
H08P6D

-60V P-Channel MOSFET

Features

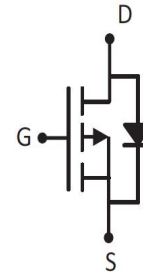
- V_{DS} -60V
- I_D -8.8A
- $R_{DS(ON)}$ (at $V_{GS}=-10V$) <250 mohm
- High density cell design for ultra low R_{dson}
- Fully characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Special process technology for high ESD capability

TO-252



PIN1:GATE
PIN2:DRAIN
PIN3:SOURCE

Schematic diagram



Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

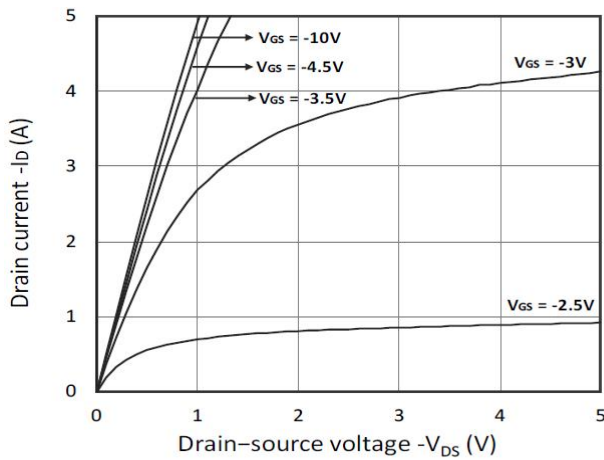
Absolute Maximum rating ($T_A = 25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-8.8	A
Pulsed Drain Current	I_{DM}	-35	A
Total Power Dissipation	$T_C=25^{\circ}C$ P_D	42	W
Thermal Resistance from Junction-to-Case	$R_{\theta JC}$	3	$^{\circ}C/W$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to+150	$^{\circ}C$

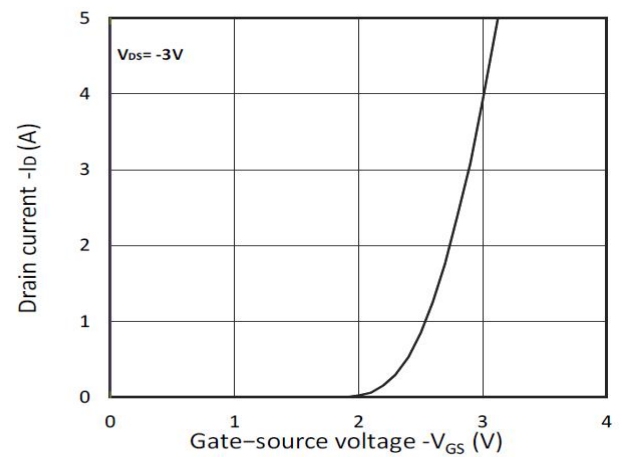
Electrical Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	-60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -48V,V _{GS} = 0V			-1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			± 100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0	1.6	-2.5	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -5A		160	250	mΩ
		V _{GS} = -4.5V, I _D = -3A		180	300	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-30V,V _{GS} =0V,F=1.0MHz		496		pF
Output Capacitance	C _{oss}			28		
Reverse Transfer Capacitance	C _{rss}			21		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} =-30V,V _{GS} =-10V, I _D =-1.5A		15.8		nC
Gate-source Charge	Q _{gs}			2.8		
Gate-drain Charge	Q _{gd}			2		
Turn-on Delay Time	t _{d(on)}	V _{DD} =-30V,I _D =-1.5A,V _{GS} =-10V, R _G =3Ω		19		ns
Turn-on Rise Time	t _r			36.8		
Turn-off Delay Time	t _{d(off)}			5.4		
Turn-off Fall Time	t _f			3.5		
Source - Drain Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = -1A			-1.2	V

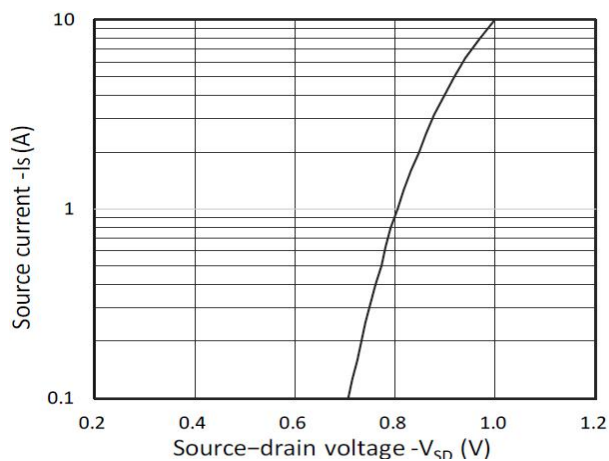
Typical Characteristic



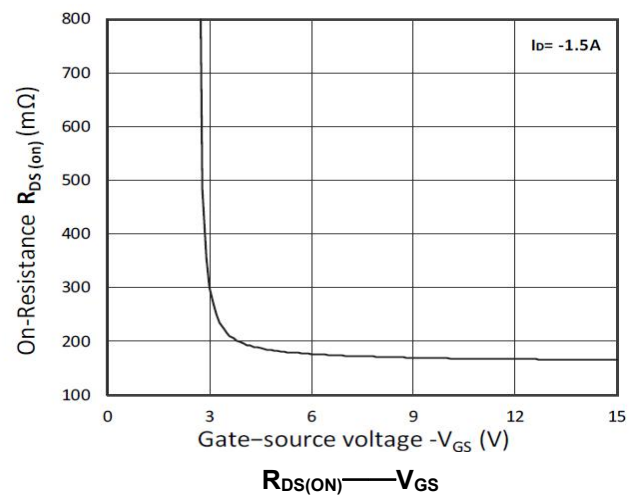
Output Characteristics



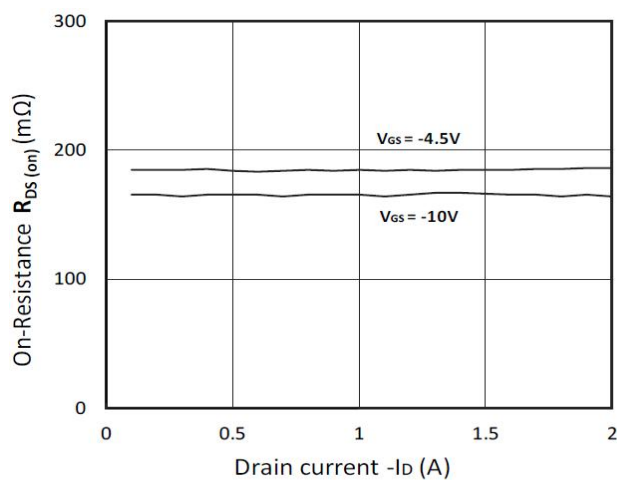
Transfer Characteristics



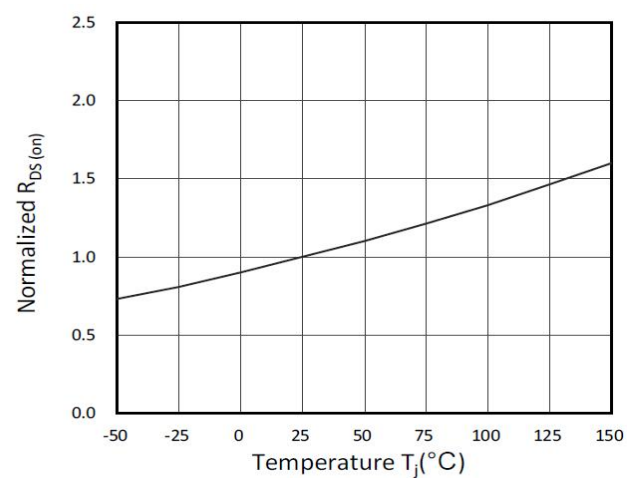
Forward Characteristics of Reverse



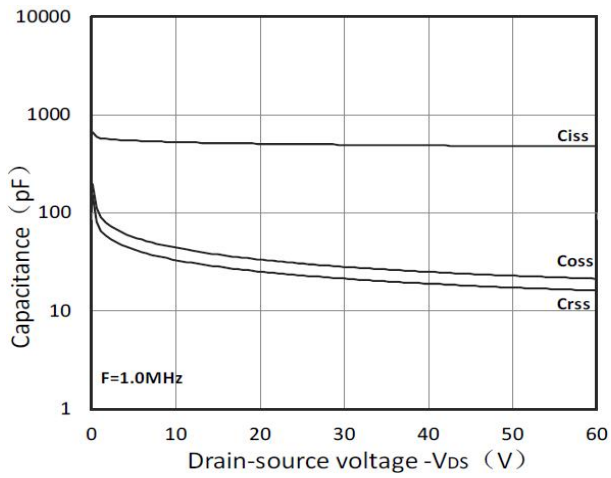
$R_{DS(on)}$ vs $-V_{GS}$



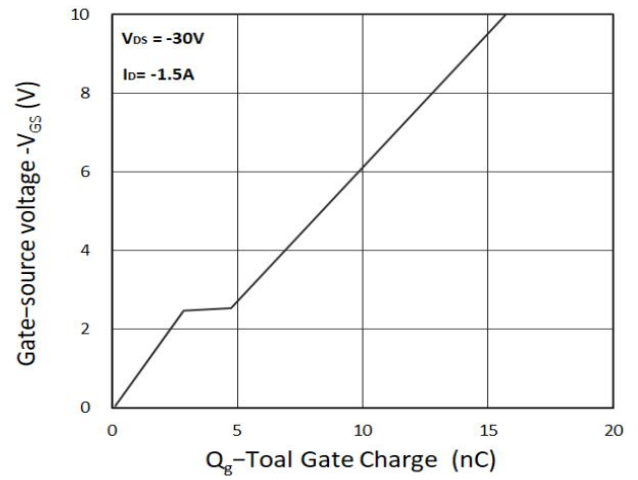
$R_{DS(on)}$ vs. I_D



Normalized $R_{DS(on)}$ vs. Temperature

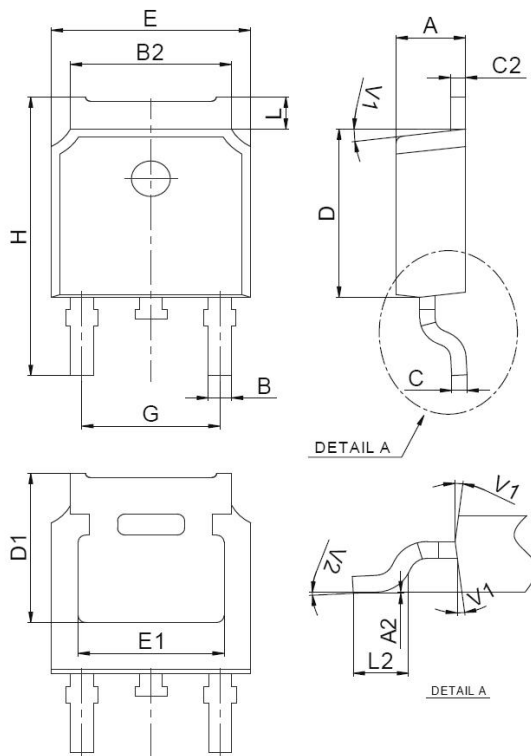


Capacitance Characteristics



Gate Charge Characteristics

Dimension



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°