

Features

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

Maximum Ratings

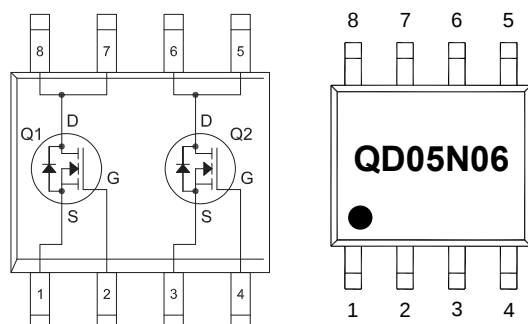
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 40.3°C/W Junction to Ambient ⁽¹⁾

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current ⁽²⁾	I_{DM}	25	A
Total Power Dissipation	P_D	3.1	W

Note:

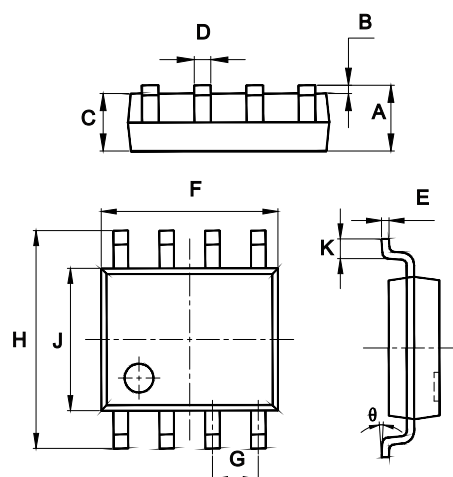
1. Surface Mounted on FR4 Board, $t \leq 10$ sec.
2. Repetitive Rating: Pulse width limited by maximum junction temperature.

Internal Structure and Marking Code



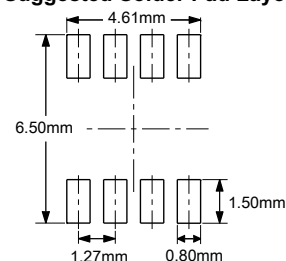
Dual N-CHANNEL MOSFET

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 =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	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1	1.5	2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =5A		35	44	mΩ
		V _{GS} =4.5V, I _D =4A		39	49	mΩ
Diode Characteristics						
Continuous Body Diode Current	I _S				5	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =5A		0.8	1.2	V
Reverse Recovery Time	t _{rr}	I _F =2A, di/dt=500A/us		45		ns
Reverse Recovery Charge	Q _{rr}			23		nC
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =30V,V _{GS} =0V,f=1MHz		800		pF
Output Capacitance	C _{oss}			72		
Reverse Transfer Capacitance	C _{rss}			38		
Total Gate Charge	Q _g	V _{DS} =30V,V _{GS} =10V,I _D =5A		15		nC
Gate-Source Charge	Q _{gs}			2.4		
Gate-Drain Charge	Q _{gd}			2.5		
Turn-On Delay Time	t _{d(on)}	V _{GS} =10V,V _{DD} =30V, I _D =2A,R _L =1Ω, R _{GEN} =3Ω		5		ns
Turn-On Rise Time	t _r			39		
Turn-Off Delay Time	t _{d(off)}			19		
Turn-Off Fall Time	t _f			7		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

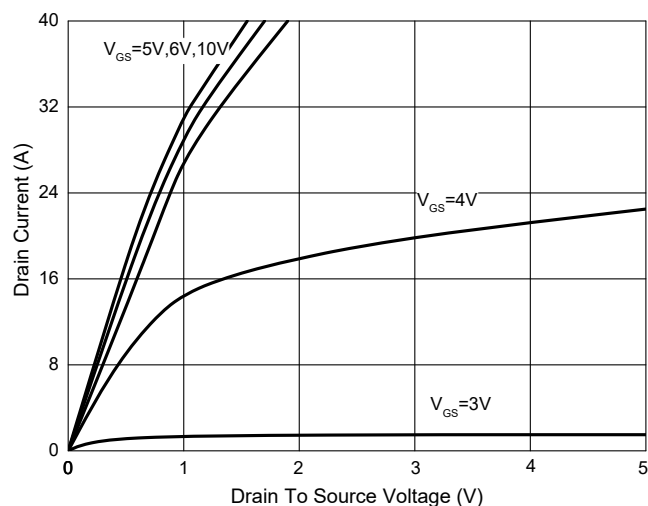


Fig. 2 - Transfer Characteristics

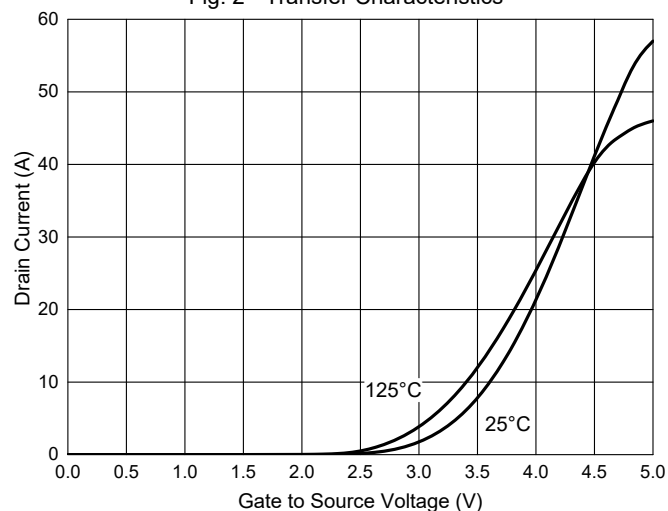


Fig. 3 - $R_{DS(ON)} - I_D$

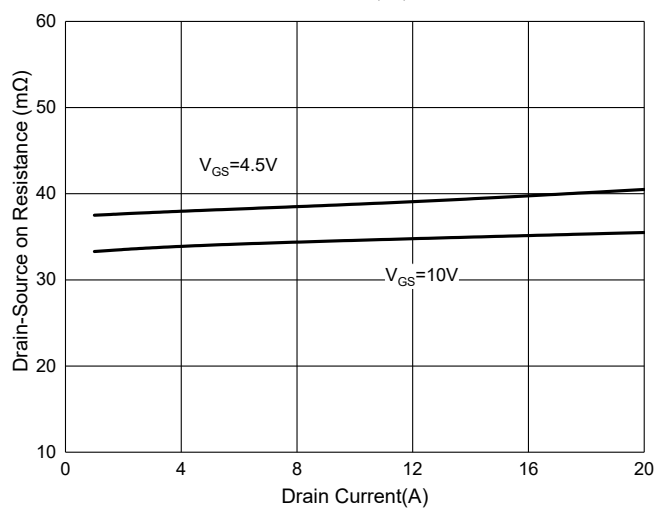


Fig. 4 - Normalized On Resistance Characteristics

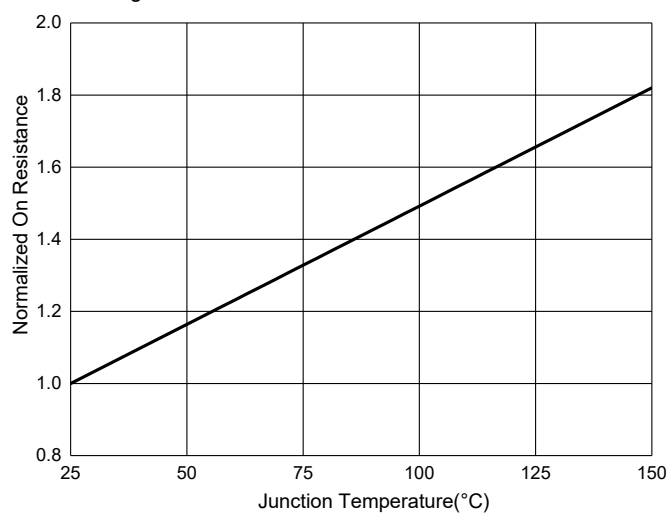


Fig. 5 - Capacitance Characteristics

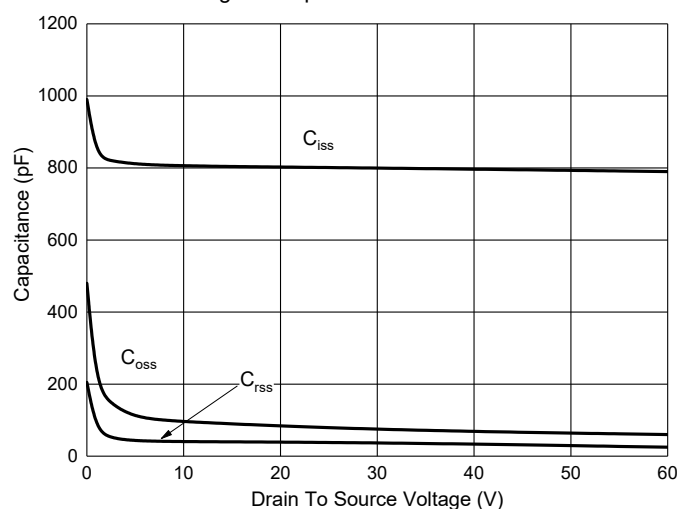
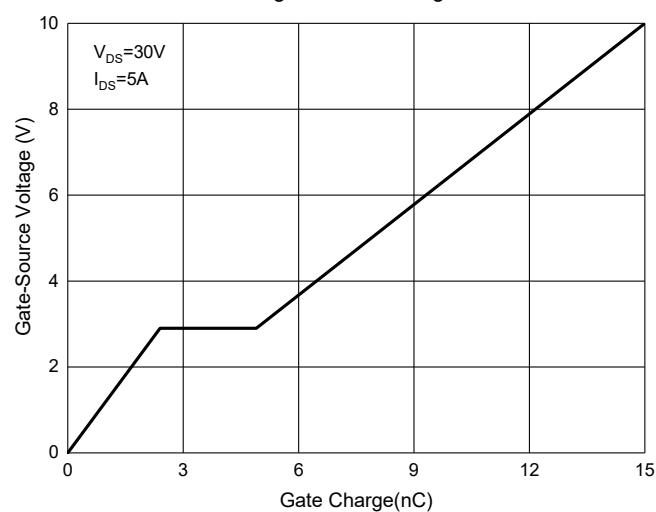
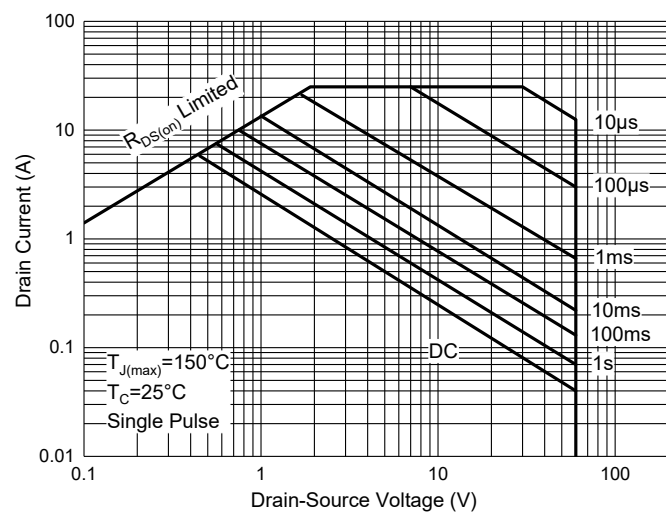


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Safe Operation Area



Ordering Information

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

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