

Features

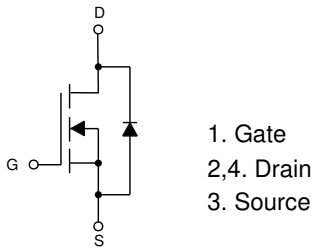
- Trench Power MV MOSFET Technology
- Excellent Package for Heat Dissipation
- High Density Cell Design for Low $R_{DS(on)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix 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: 1.3°C/W Junction to Case

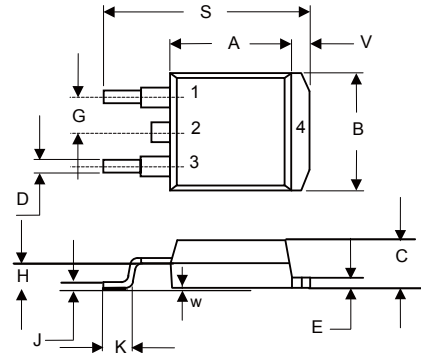
Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	100	V	
Gate-Source Voltage	V_{GS}	±25	V	
Continuous Drain Current	I_D	$T_C=25^\circ C$	70	A
		$T_C=100^\circ C$	49	A
Pulsed Drain Current	I_{DM}	240	A	
Single Pulse Avalanche Energy	E_{AS}	530	mJ	
Total Power Dissipation	P_D	115	W	

Internal Structure



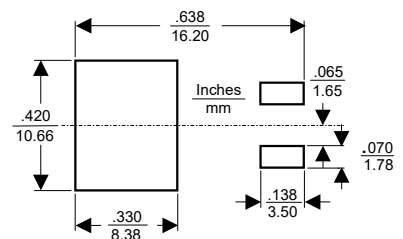
**N-CHANNEL
MOSFET**

D2-PAK



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.331	0.370	8.40	9.40	
B	0.378	0.417	9.60	10.60	
C	0.165	0.189	4.20	4.80	
D	0.027	0.037	0.68	0.94	
E	0.045	0.055	1.14	1.40	
G	0.010		2.54		TYP.
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.071	0.131	1.80	3.32	
S	0.575	0.625	14.60	15.87	
V	0.042	0.058	1.07	1.47	
W	0.000	0.010	0.00	0.25	

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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage ^(Note 1)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3	4	V
Drain-Source On-Resistance ^(Note 1)	$R_{DS(on)}$	$V_{GS}=10V, I_D=12A$		14.5	18	m Ω
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=12A$		0.8	1.2	V
Continuous Body Diode Current	I_S				70	A
Dynamic Characteristics^(Note 2)						
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1MHz$		2960		pF
Output Capacitance	C_{oss}			142		
Reverse Transfer Capacitance	C_{rss}			120		
Total Gate Charge	Q_g	$V_{DD}=50V, V_{GS}=10V, I_D=12A$		80		nC
Gate-Source Charge	Q_{gs}			12		
Gate-Drain Charge	Q_{gd}			25		
Reverse Recovery Charge	Q_{rr}	$V_R=50V, I_F=12A, di_F/dt=100A/\mu s$		33		ns
Reverse Recovery Time	t_{rr}			54		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=50V, I_D=12A, R_{GEN}=1\Omega$		13		ns
Turn-On Rise Time	t_r			14		
Turn-Off Delay Time	$t_{d(off)}$			25		
Turn-Off Fall Time	t_f			10		

Note 1. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

2. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

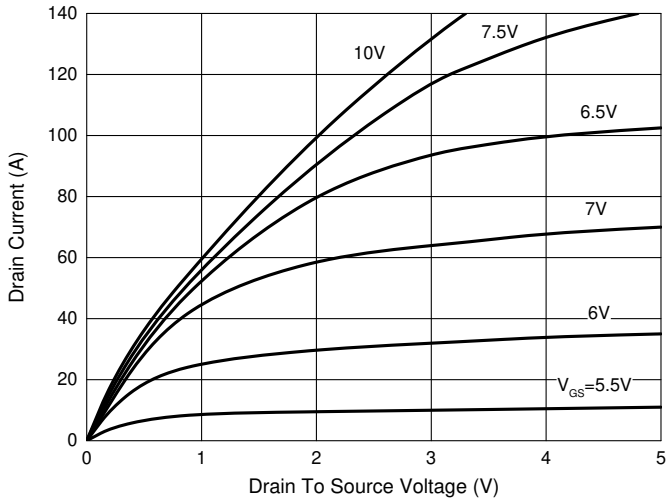


Fig. 2 - Transfer Characteristics

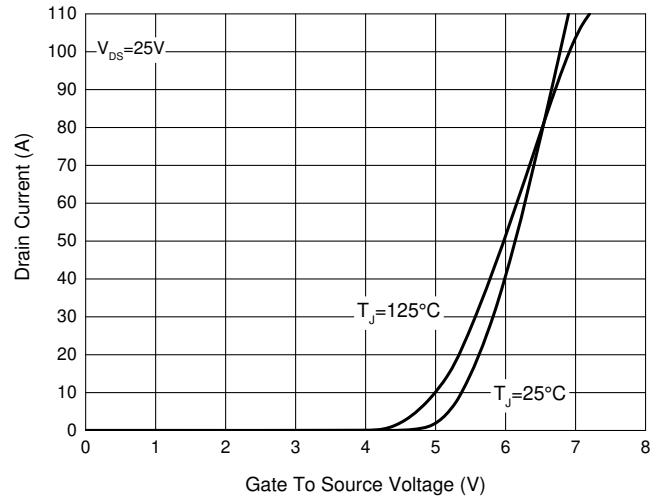


Fig. 3 - Capacitance Characteristics

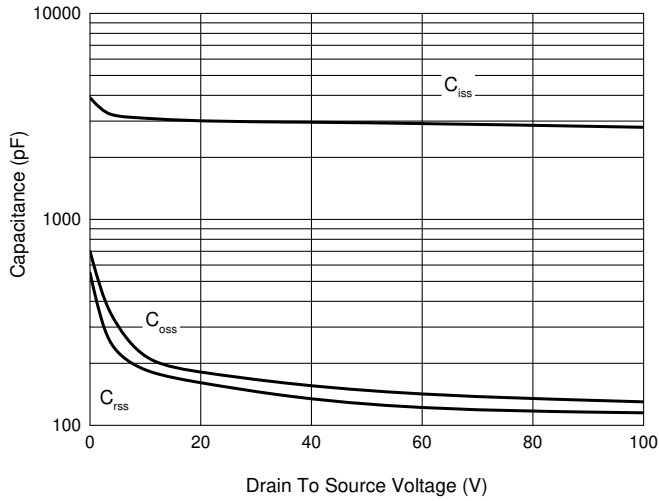


Fig. 4 - Total Gate Charge Characteristics

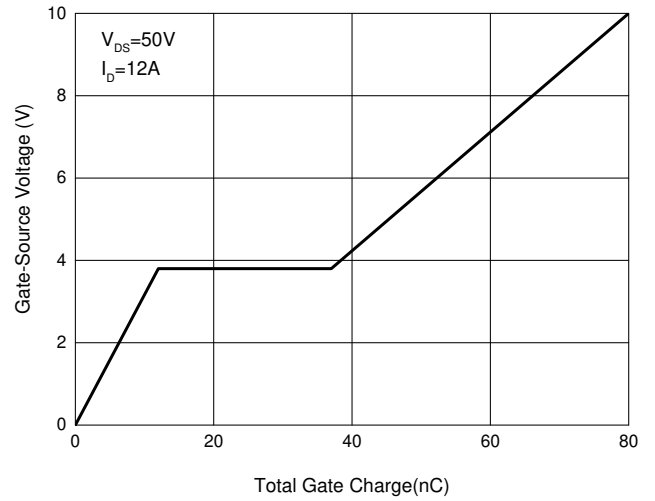


Fig. 5 - $R_{DS(ON)} - I_D$

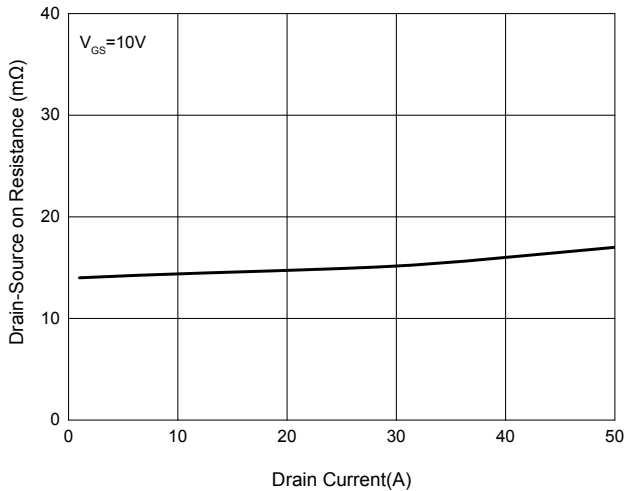
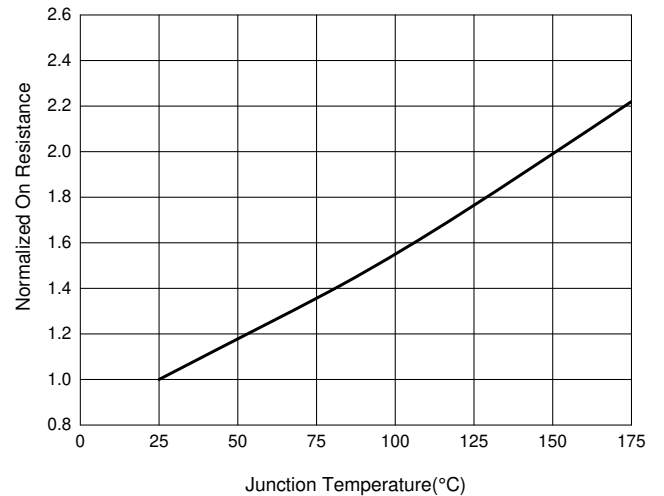


Fig. 6 - Normalized On Resistance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 800pcs/Reel

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

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