Features

- Trench Power LV MOSFET Technology
- Excellent Package for Heat Dissipation
- High Density Cell Design for Low $R_{DS(on)}$
- Halogen Free. “Green” Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Moisture Sensitivity Level 1

Dual N-CHANNEL MOSFET

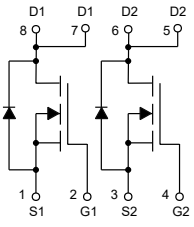
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 41.5°C/W Junction to Ambient (2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Volltage	V_{GS}	±20	V
Continuous Drain Current	I_D	25	A
Pulsed Drain Current (3)	I_{DM}	100	A
Total Power Dissipation	P_D	3	W

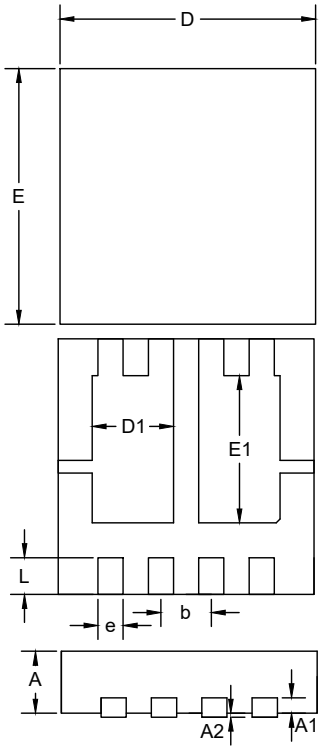
Note:
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Repetitive Rating: Pulse width limited by maximum junction temperature.

Internal Structure and Marking Code



pin1

DFN3333-D



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.030	0.033	0.750	0.850	
A1	0.008		0.200		TYP
A2	-	0.002	-	0.050	
D	0.128	0.132	3.250	3.350	
E	0.128	0.132	3.250	3.350	
D1	0.039	0.043	1.000	1.100	
E1	0.073	0.077	1.850	1.950	
b	0.026		0.650		BSC
e	0.012	0.014	0.300	0.350	
L	0.017	0.021	0.425	0.525	

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	40			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V, 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=8A		14	18	mΩ
		V_{GS}=4.5V, I_D=4A		18	24	mΩ
Diode Characteristics						
Continuous Body Diode Current	I_S				25	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=10A			1.2	V
Reverse Recovery Time	t_{rr}	I_S=10A,di/dt=100A/μs		29		ns
Reverse Recovery Charge	Q_{rr}			26		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=20V,V_{GS}=0V,f=1MHz		750		pF
Output Capacitance	C_{oss}			150		
Reverse Transfer Capacitance	C_{rss}			80		
Total Gate Charge	Q_g	V_{DS}=20V,V_{GS}=10V,I_D=10A		15		nC
Gate-Source Charge	Q_{gs}			3		
Gate-Drain Charge	Q_{gd}			2.5		
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=20V, V_{GEN}=10V, R_G=3Ω, R_L=1Ω, I_{DS}=2A		6		ns
Turn-On Rise Time	t_r			17.5		
Turn-Off Delay Time	$t_{d(off)}$			31		
Turn-Off Fall Time	t_f			17		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

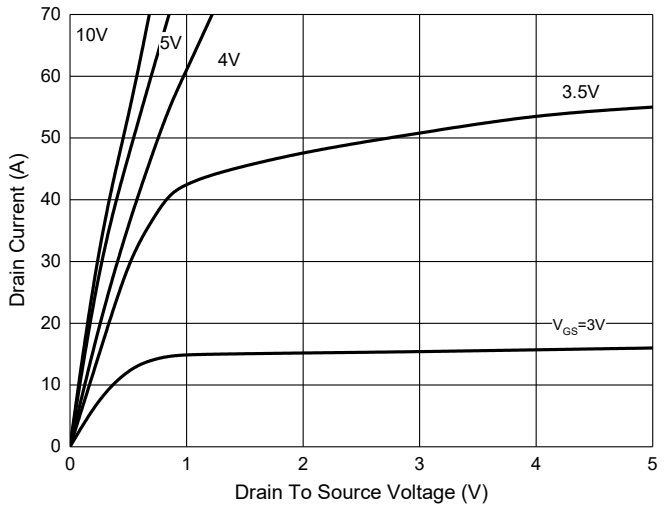


Fig. 2 - Transfer Characteristics

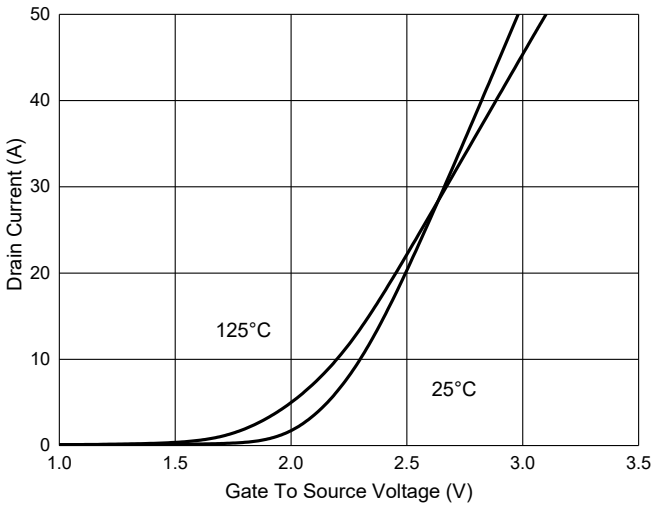


Fig. 3 - $R_{DS(ON)}$—I_D

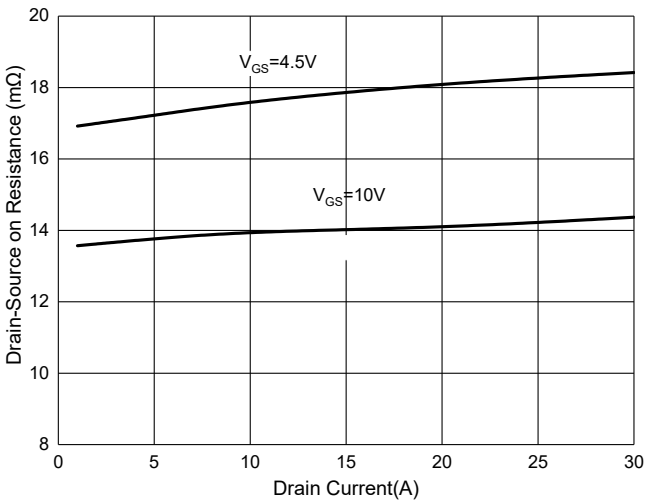


Fig. 4 - Normalized On Resistance Characteristics

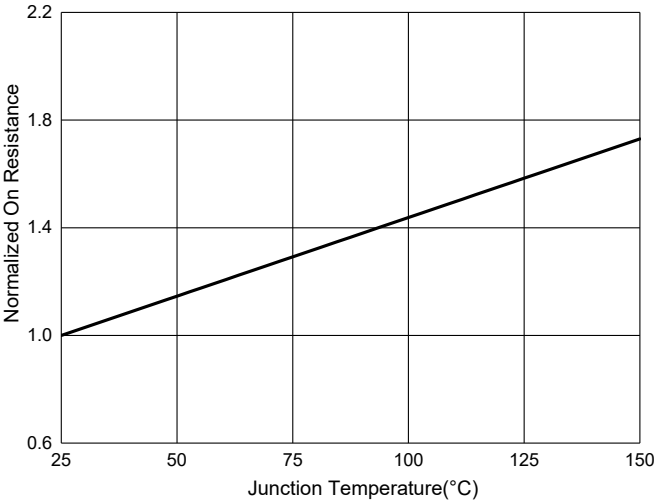


Fig. 5 - Capacitance Characteristics

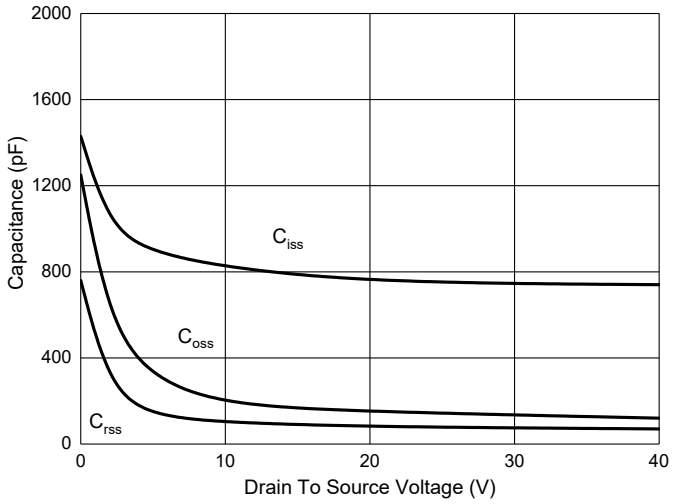
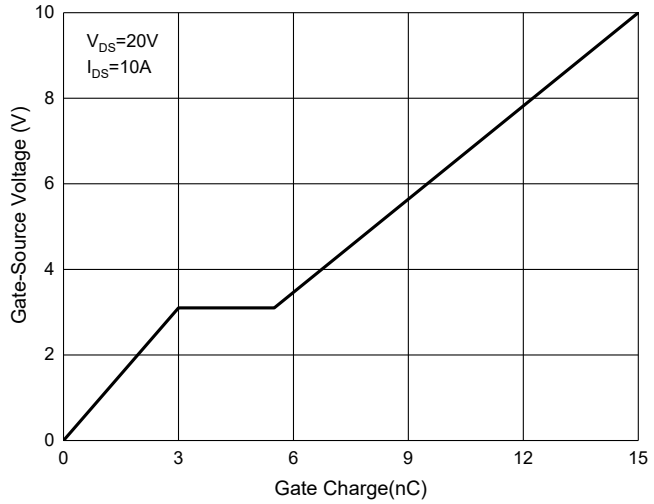
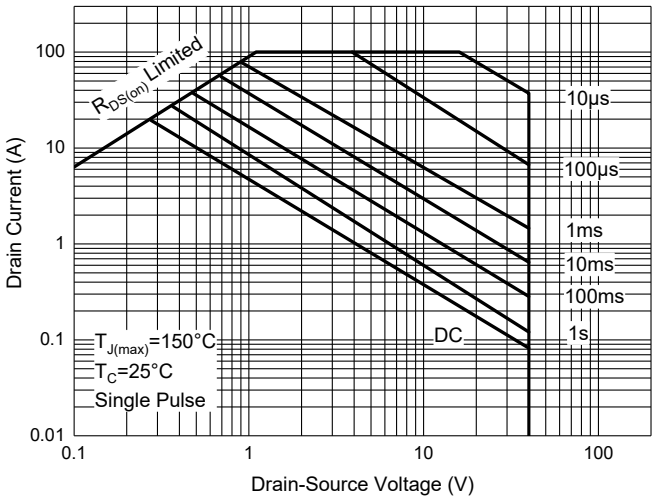


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Safe Operation Area



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel