Features

- Low On-Resistance
- Low Threshold Voltage
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 3
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-Channel MOSFET

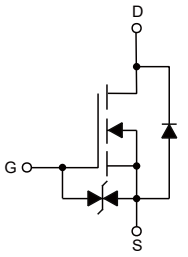
Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance: 600°C/W Junction to Ambient

Parameter		Symbol	Rating	Unit
Drain -source Voltage		V_{DS}	60	V
Gate -Source Voltage		V_{GS}	±20	V
Drain Current-Continuous	T_A=25°C	I_D	0.26	A
	T_A=70°C		0.21	
Pulsed Drain Current		I_{DM}	1.3	A
Power Dissipation		P_D	0.2	W

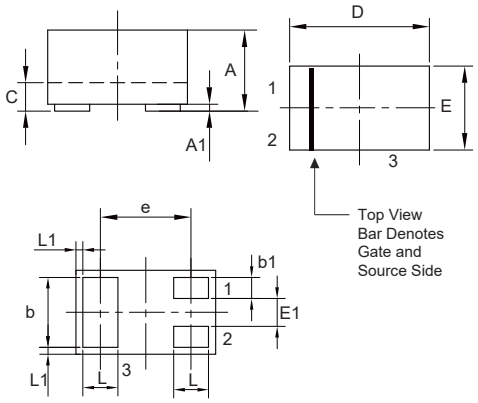
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure and Marking Code



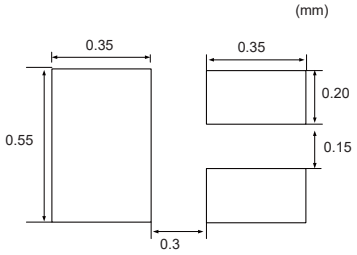
1. GATE
2. SOURCE
3. DRAIN

DFN1006-3



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.017	0.022	0.42	0.55	
A1	0.000	0.002	0.00	0.05	
b	0.018	0.022	0.45	0.55	
b1	0.004	0.008	0.10	0.20	
c	0.005	0.007	0.12	0.18	
D	0.037	0.041	0.95	1.05	
E	0.022	0.026	0.55	0.65	
E1	0.006	0.010	0.15	0.25	
e	0.026 BSC		0.65BSC		
L	0.008	0.012	0.20	0.30	
L1	0.0002 REF		0.05 REF		

Suggested Solder Pad Layout



ELECTRICAL CHARACTERISTICS (Ta=25℃ 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-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1	1.5	2.5	V
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V, V_{GS} =± 20V			±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =60V, V_{GS} =0V			1	μA
Drain-Source On-Resistance(2)	$R_{DS(on)}$	V_{GS}=10V, I_D=300mA		1.9	2.5	Ω
		V_{GS}=4.5V, I_D=200mA		2	3	
Forward Tranconductance(2)	g_{fs}	V_{DS}=5V, I_D=300mA		130		mS
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=300mA		0.9	1.2	V
Dynamic Characteristics						
Input Capacitance(3)	C_{iss}	V_{DS}=30V,V_{GS}=0V, f=1MHz		21		pF
Output Capacitance(3)	C_{oss}			9		
Reverse Transfer Capacitance(3)	C_{rss}			4		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=300mA		1.22		nC
Gate-Source Charge	Q_{gs}			0.5		
Gate-Drain Charge	Q_{gd}			0.18		
Recovered Recovery Charge	Q_{rr}	V_{GS}=0V, I_S=300mA,V_R=25V di/dt=100A/μs		3.6		
Reverse Recovery Time	t_{rr}			16		ns
Turn-on Delay Time(3)	$t_{d(on)}$	V_{DS}=50V, I_D=200mA,V_{GS}=10V, R_G=50Ω		7		
Turn-on Rise Time(3)	t_r			19		
Turn-off Delay Time(3)	$t_{d(off)}$			20		
Turn-off Rise Time(3)	t_f			84		

Note: 2. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤2%.
3. Hese Parameters Have no Way to Verify.

Curve Characteristics

Fig. 1 - Output Characteristics

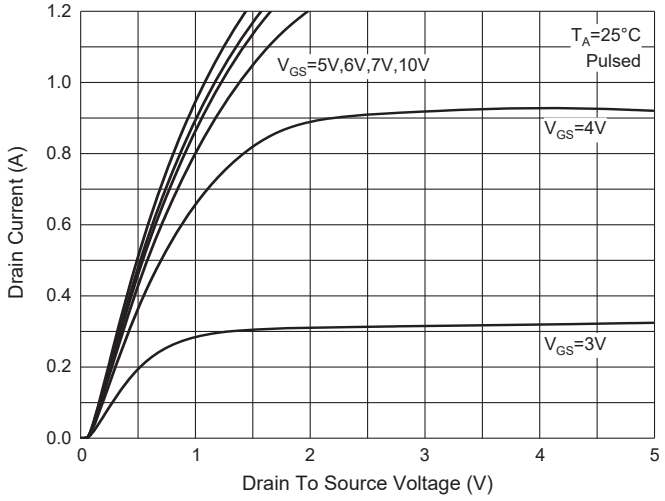


Fig. 2 - Transfer Characteristics

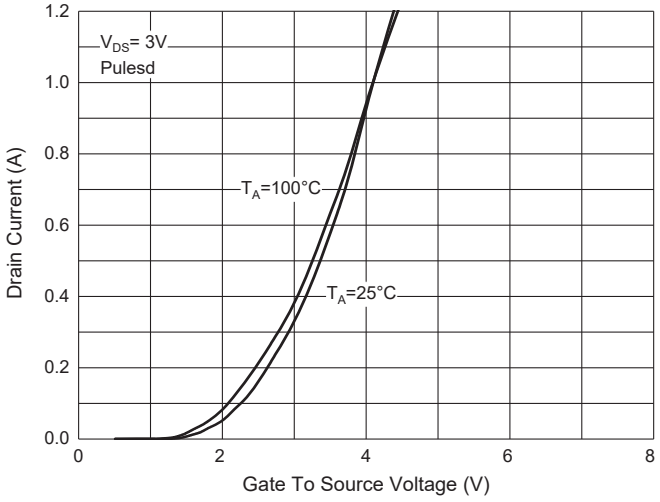


Fig.3-$R_{DS(ON)}$—I_D

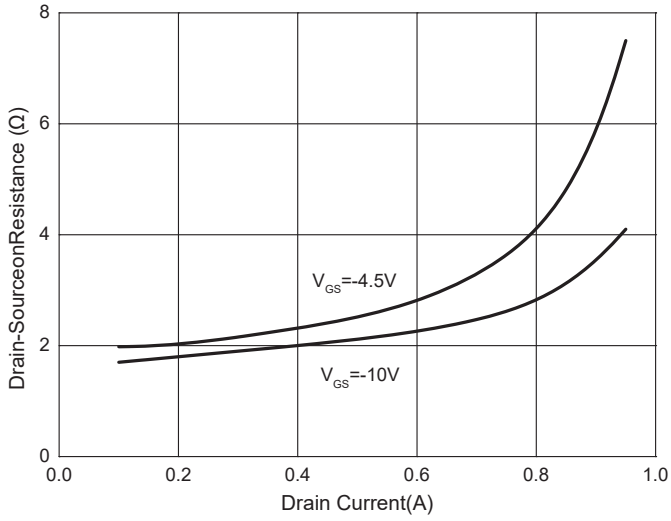


Fig. 4 - $R_{DS(ON)}$—V_{GS}

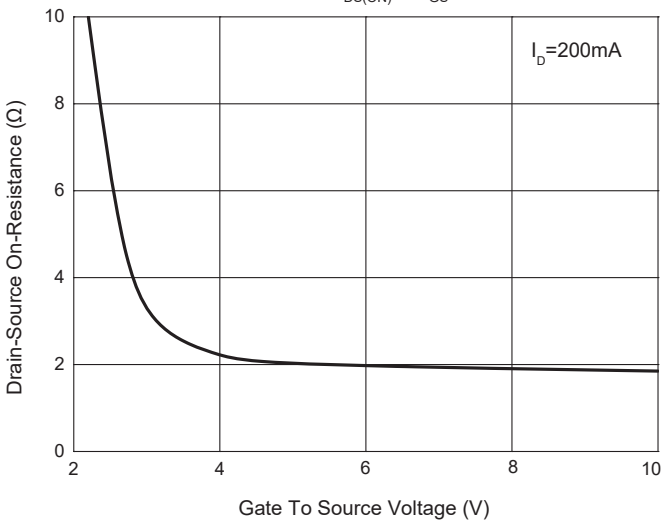


Fig. 5 - I_S—V_{SD}

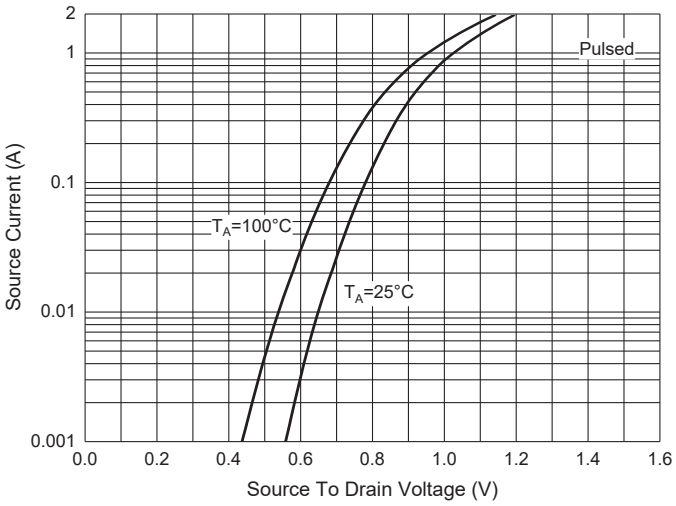
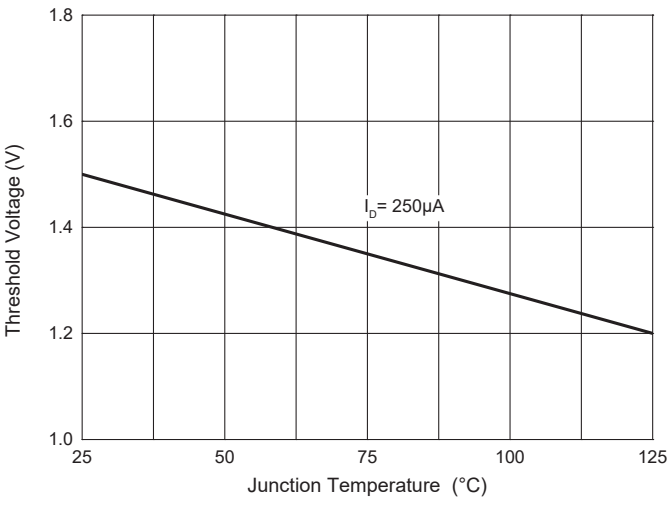
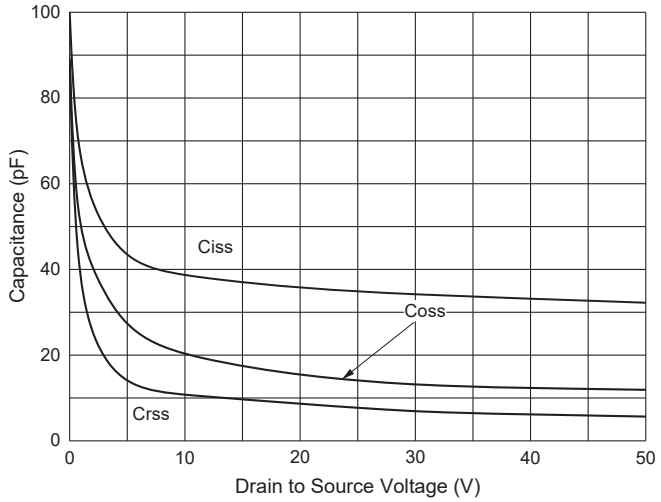


Fig. 6 - Threshold Voltage



Curve Characteristics

Fig. 7 - Capacitance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel