Features

- Operated at Low Logic Level Gate Drive
- N-Channel Switch with 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)

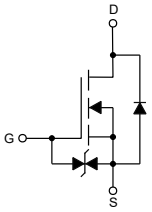
N-Channel MOSFET

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 1250°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	20V	V
Gate -Source Voltage	V_{GS}	±12	V
Drain Current-Continuous(1)	I_D	0.75	A
Pulsed Drain Current	I_{DM}	1.8	A
Power Dissipation(2)	P_D	0.1	W

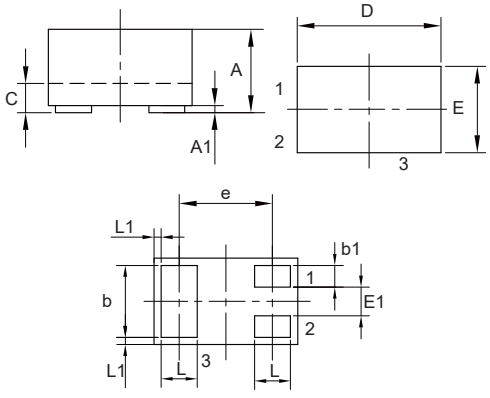
Internal Structure



1. GATE
2. SOURCE
3. DRAIN

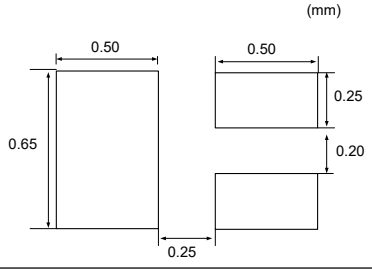
Marking:34

DFN1006-3



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	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	0.042	0.95	1.075	
E	0.022	0.026	0.55	0.675	
E1	0.006	0.010	0.15	0.25	
e	0.026		0.65		TYP.
L	0.008	0.012	0.20	0.30	
L1	0.0002		0.05		TYP.

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	20			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.35	0.75	1.1	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =20V, V_{GS} =0V			1.0	μA
Gate-body Leakage Current	I_{GSS}	V_{GS} =± 10V, V_{DS} =0V			±20	μA
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=150mA		0.25	0.5	Ω
		V_{GS}=2.5V, I_D=150mA		0.30	0.7	
		V_{GS}=1.8V, I_D=150mA		0.37	0.9	
Forward transconductance	g_{FS}	V_{DS}=10V, I_D=150mA	150			mS
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=150mA			1.2	V
Dynamic Characteristics						
Input Capacitance(3)	C_{iss}	V_{DS}=16V,V_{GS}=0V, f=1MHz		79	120	pF
Output Capacitance(3)	C_{oss}			13	20	
Reverse Transfer Capacitance(3)	C_{rss}			9	15	
Switching Characteristics						
Turn-on Delay Time(4)	$t_{d(on)}$	V_{DS}=10V,V_{GS}=4.5V,I_D=500 mA, R_{GEN}=10Ω		6.7		ns
Turn-off Delay Time(4)	$t_{d(off)}$			17.3		
Rise Time(4)	t_r			4.8		
Fall Time(4)	t_f			7.4		

Note:
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test: Pulse width ≤300μs,duty cycle≤2%.
3. Graranteed by design, not subject to producting.
4. Switching characteristics are independent of operating junction temperatures.

Curve Characteristics

Fig. 1 - Output Characteristics

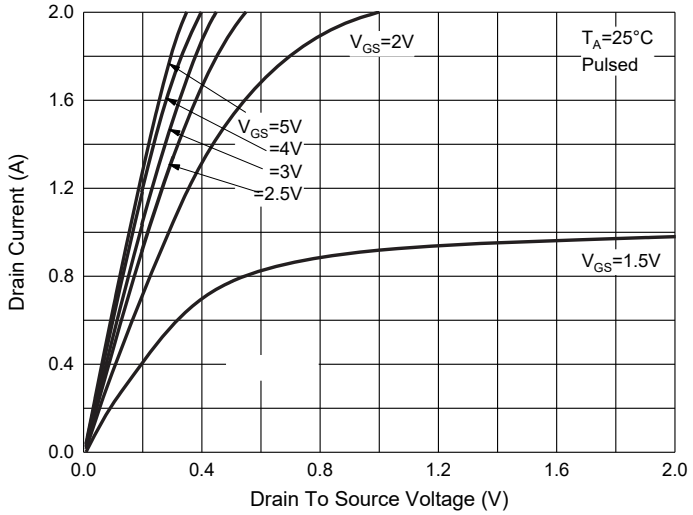


Fig. 2 - Transfer Characteristics

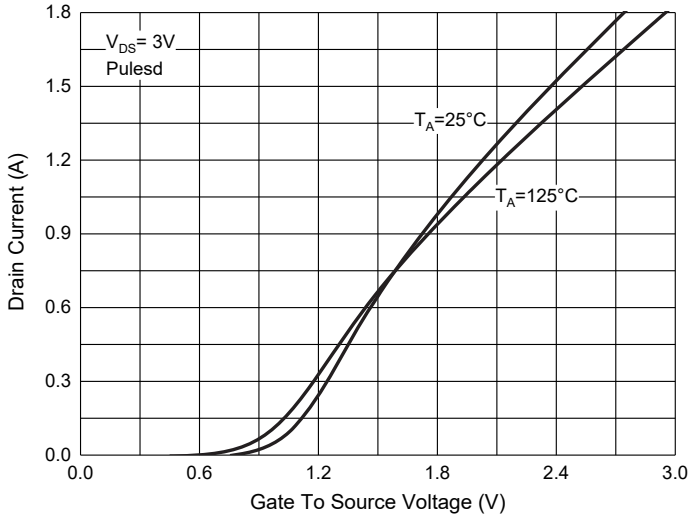


Fig. 3 - $R_{DS(ON)}$—I_D

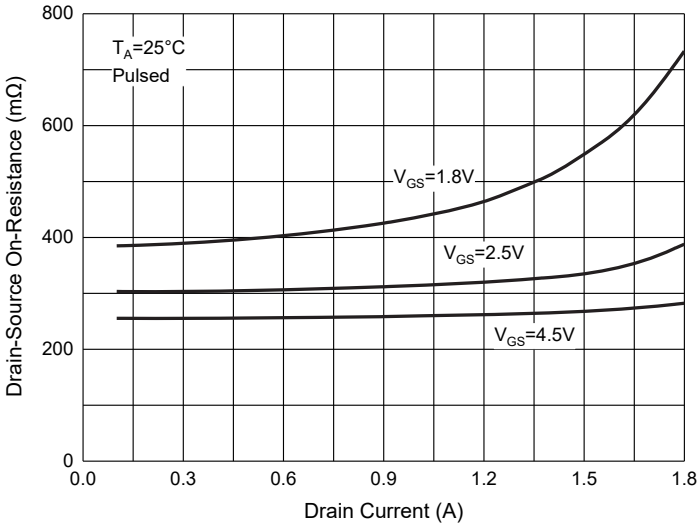


Fig. 4- $R_{DS(ON)}$—V_{GS}

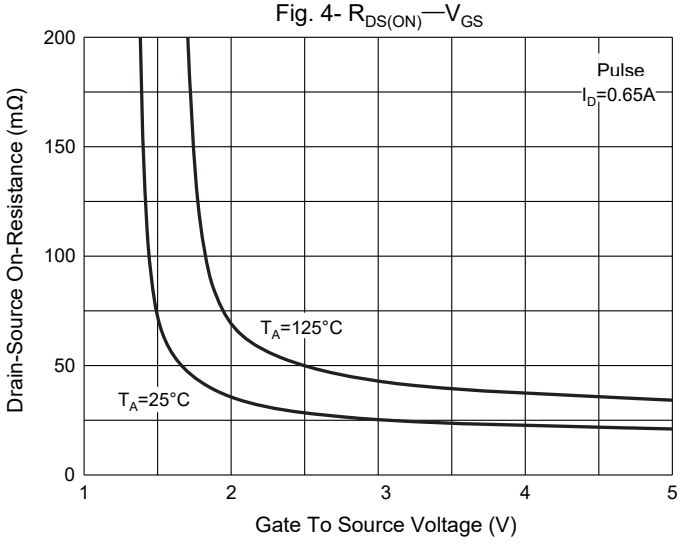


Fig. 5 - I_S—V_{SD}

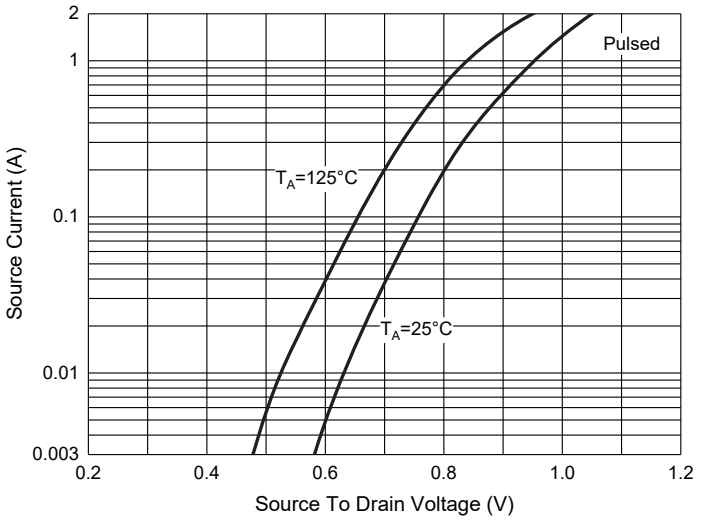
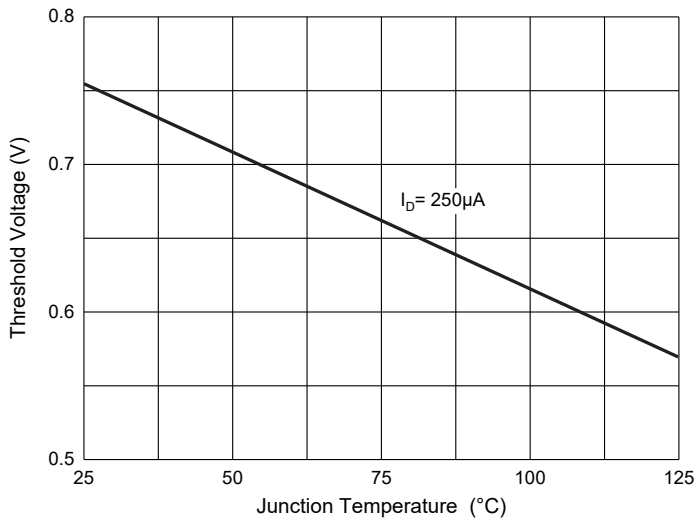


Fig. 6 - Threshold Voltage



Ordering Information

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

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