Features

- Advanced Trench MOSFET Process Technology
- Ultra Low On-Resistance With Low Gate Charge
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

P-CHANNEL MOSFET

Maximum Ratings

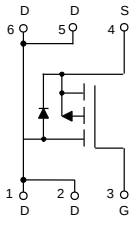
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 357°C/W Junction to Ambient

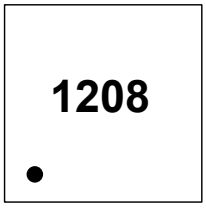
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Volltage	V_{GS}	±8	V
Continuous Drain Current	I_D	-8	A
Pulsed Drain Current (Note 2)	I_{DM}	-28	A

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

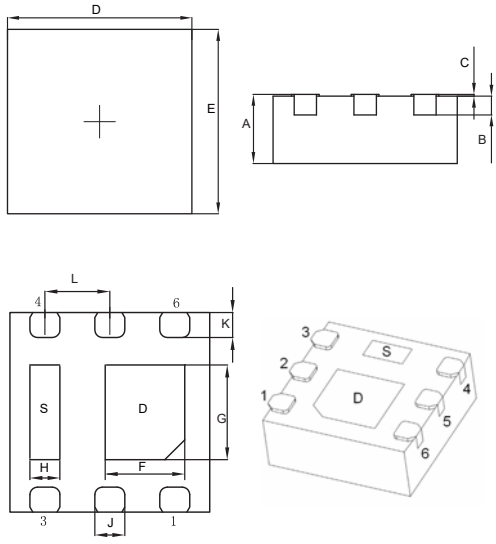
2. Pulse Width Limited by Maximum Junction Temperature.

Internal Structure and Marking Code





DFN2020-6J



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.030	0.034	0.750	0.850	
B	0.008		0.200		BSC.
C	0.000	0.004	0.000	0.100	
D	0.075	0.083	1.900	2.100	
E	0.075	0.083	1.900	2.100	
F	0.024	0.031	0.610	0.810	
G	0.028	0.036	0.710	0.910	
H	0.008	0.016	0.200	0.400	
J	0.008	0.016	0.200	0.400	
K	0.006	0.014	0.150	0.350	
L	0.026		0.650		BSC.

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	-12			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±8V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-12V, V_{GS}=0V			-1	μA
Gate-Threshold Voltage(Note 2)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.4		-1	V
Drain-Source On-Resistance(Note 2)	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-5A			28	mΩ
		V_{GS}=-3.7V, I_D=-4.6A			32	
		V_{GS}=-2.5V, I_D=-4.3A			40	
		V_{GS}=-1.8V, I_D=-1A			63	
		V_{GS}=-1.5V, I_D=-0.5A			150	
Forward Tranconductance(Note 2)	g_{FS}	V_{DS}=-5V, I_D=-5A		18		S
Dynamic Characteristics(Note 3)						
Input Capacitance	C_{iss}	V_{DS}=-6V,V_{GS}=0V,f=1MHz		1275		pF
Output Capacitance	C_{oss}			255		
Reverse Transfer Capacitance	C_{rss}			236		
Gate Resistance	R_g	V_{DS}=0V,V_{GS}=0V,f=1MHz	1.9		19	Ω
Total Gate Charge	Q_g	V_{DS}=-6V,V_{GS}=-4.5V,I_D=-5A		14	21	nC
Gate-Source Charge	Q_{gs}			2.3		
Gate-Drain Charge	Q_{gd}			3.6		
Reverse Recovery Chrage	Q_{rr}	I_F=-4A, di/dt=100A/μs		8	16	
Reverse Recovery Time	t_{rr}			24	48	ns
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-6V,V_{GEN}=-4.5V,I_D=-4A R_L=6Ω,R_{GEN}=1Ω		26	40	
Turn-On Rise Time	t_r			24	40	
Turn-Off Delay Time	$t_{d(off)}$			45	70	
Turn-Off Fall Time	t_f			20	35	
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S				-8	A
Pulsed Diode Forward Current	I_{SM}				-28	
Body Diode Voltage	V_{SD}	I_S=-4A, V_{GS}=0V			-1.2	V

Note: 2. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤2%.

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

Curve Characteristics

Fig. 1 - Output Characteristics

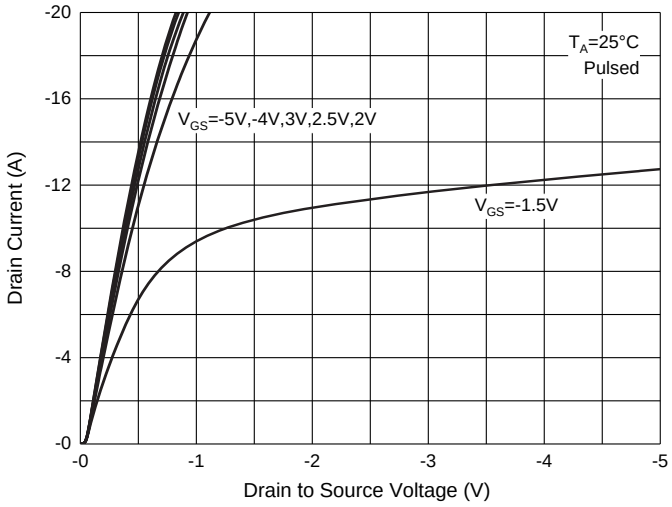


Fig. 2 - Transfer Characteristics

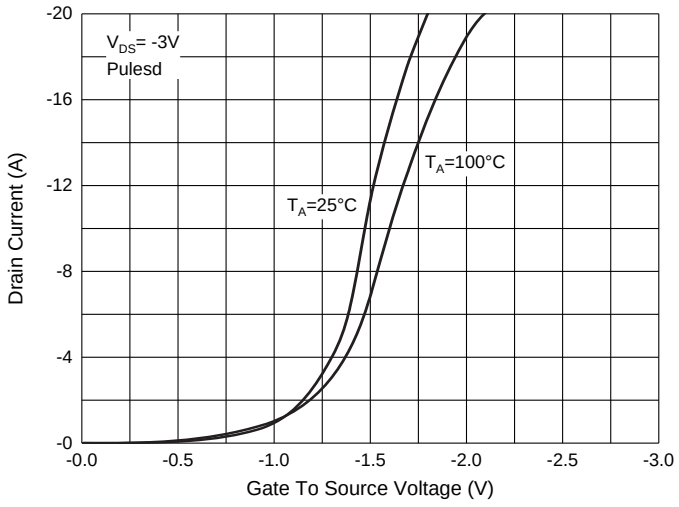


Fig. 3 - $R_{DS(ON)}$—I_D

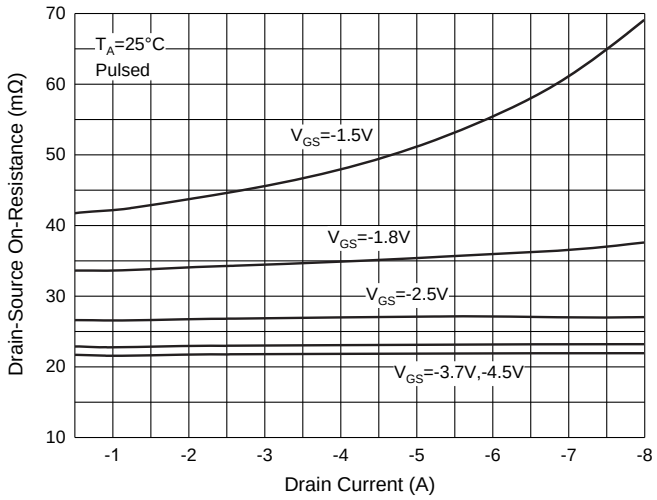


Fig. 4 - $R_{DS(ON)}$—V_{GS}

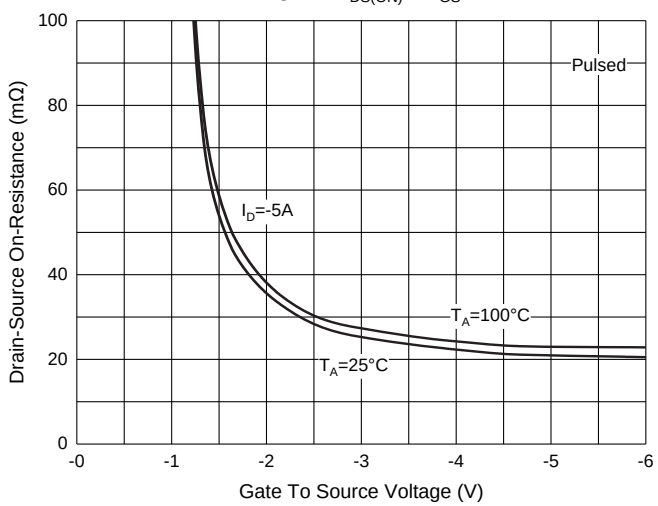


Fig. 5 - I_S—V_{SD}

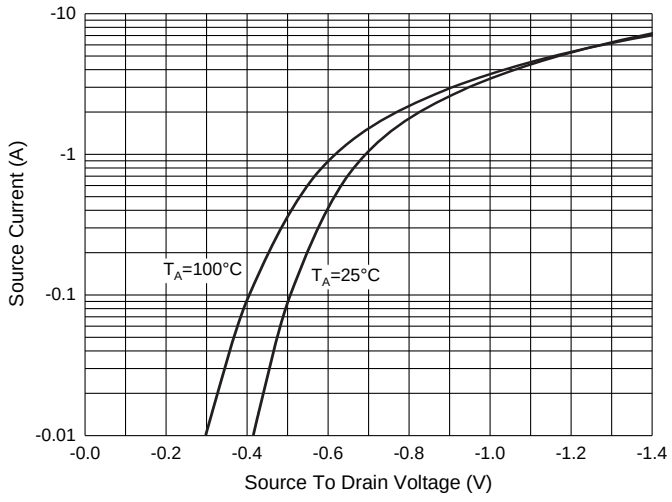
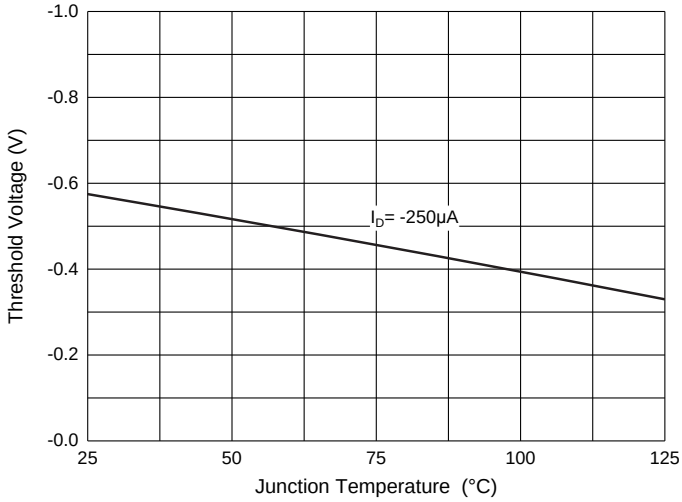


Fig. 6 - Threshold Voltage



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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