



20V P-Channel Enhancement Mode MOSFET

Current

Features

Voltage

- Low Voltage Drive (1.2V).
- Advanced Trench Process Technology

-20 V

- Specially Designed for Switch Load, PWM Application, etc.
- ESD Protected
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std. (Halogen Free)

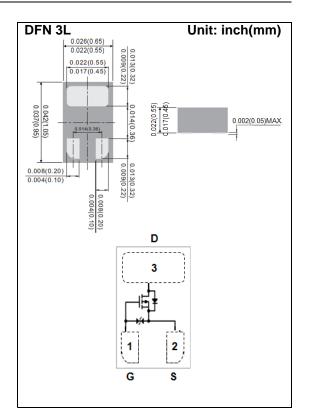
Mechanical Data

- Case: DFN 3L Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00004 ounces, 0.0011 grams
- Marking: 1

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

-0.75A

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V _{DS}	-20	V
Gate-Source Voltage		V _{GS}	<u>+</u> 10	V
Continuous Drain Current		I _D	-0.75	А
Pulsed Drain Current, tp <u><</u> 10us		I _{DM}	-2.0	А
Power Dissipation	T _a =25°C	P _D	900	mW
	Derate above 25°C		7.2	mW/°C
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	°C
Typical Thermal resistance - Junction to Ambient, t<10s ^(Note 3)		R _{θJA}	139	°C/W





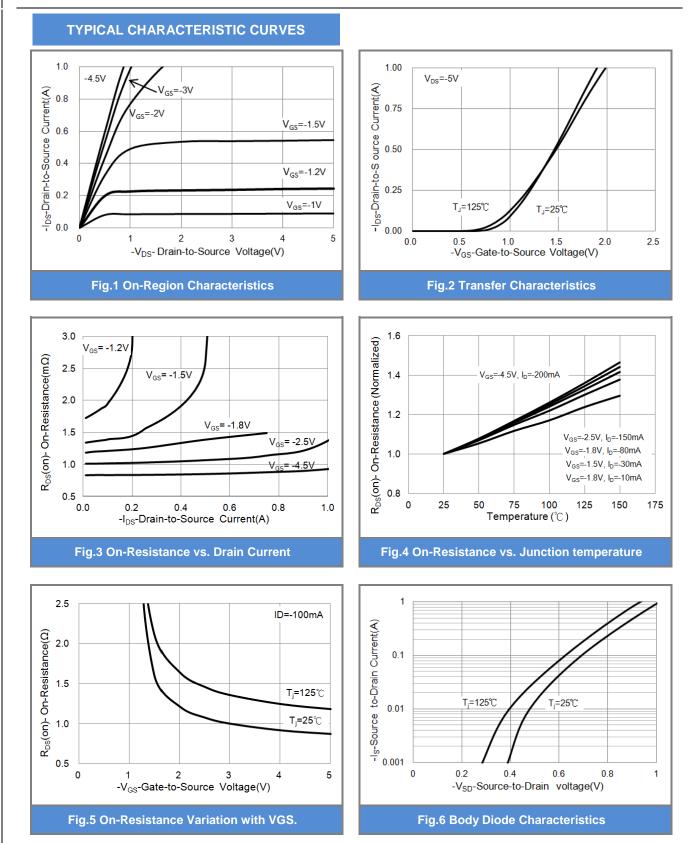
Electrical Characteristics ($T_A=25^{\circ}C$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	V _{GS} =0V, I _D =-250uA	-20	-	-	V
Gate Threshold Voltage	V _{GS(th)}	$V_{DS}=V_{GS}$, $I_{D}=-250$ uA	-0.3	-0.59	-1.0	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-400mA	-	0.85	1.2	Ω
		V _{GS} =-2.5V, I _D =-150mA	-	0.98	1.5	
		V _{GS} =-1.8V, I _D =-80mA	-	1.15	2.2	
		V _{GS} =-1.5V, I _D =-30mA	-	1.33	3.6	
		V _{GS} =-1.2V, I _D =-10mA	-	1.5	6.0	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V	-	-0.01	-1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = <u>+</u> 8V, V _{DS} =0V	-	<u>+</u> 2	<u>+</u> 10	uA
Dynamic (Note 5)						
Total Gate Charge	Q_g	V _{DS} =-10V, I _D =-200mA, V _{GS} =-4.5V ^(Note 2)	-	1.4	-	nC
Gate-Source Charge	Q_gs		-	0.19	-	
Gate-Drain Charge	Q_gd		-	0.2	-	
Input Capacitance	Ciss		-	38	-	pF
Output Capacitance	Coss	V_{DS} =-10V, V_{GS} =0V,	-	15	-	
Reverse Transfer Capacitance	Crss	f=1.0MHZ	-	9	-	
Turn-On Delay Time	td _(on)		-	7.2	-	ns
Turn-On Rise Time	tr	V_{DD} =-10V, I _D =-150mA, V_{GS} =-4.5V, R_{G} =6 Ω ^(Note 1.2)	-	21	-	
Turn-Off Delay Time	td _(off)		-	85	-	
Turn-Off Fall Time	tf	R _G =017	-	116	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S		-	-	-200	mA
Diode Forward Voltage	V _{SD}	I _S =-200mA, V _{GS} =0V	-	-0.93	-1.3	V

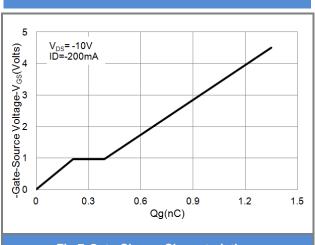
NOTES :

- 1. Pulse width <300us, Duty cycle <2%
- 2. Essentially independent of operating temperature typical characteristics.
- 3. $R_{\Theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper.
- 4. The maximum current rating is package limited.
- 5. Guaranteed by design, not subject to production testing.









TYPICAL CHARACTERISTIC CURVES

Fig.7 Gate-Charge Characteristics

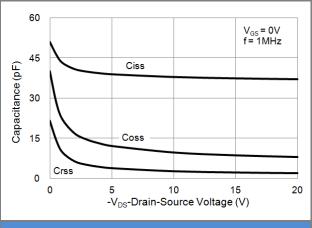
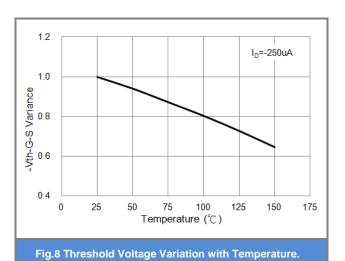


Fig.9 Capacitance vs. Drain-Source Voltage.



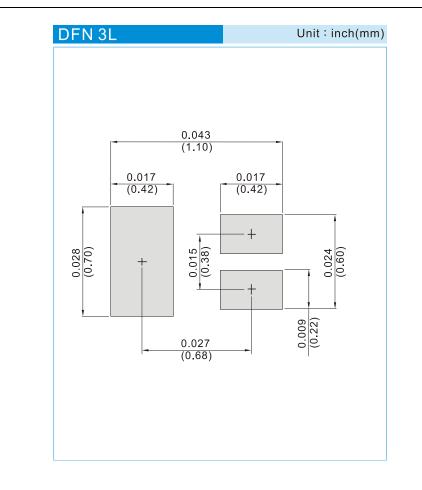




PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJQ1901_R1_00001	DFN 3L	8K pcs / 7" reel	1	Halogen free

MOUNTING PAD LAYOUT







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