

# PJQ2437L-AU

## 28V P-Channel Enhancement Mode MOSFET

**Voltage**

**-28 V**

**Current**

**-15 A**

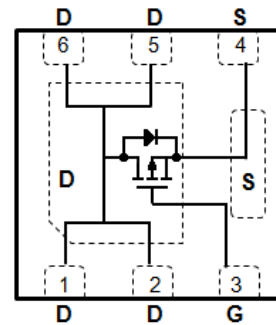
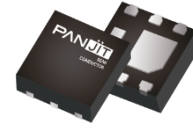
### Features

- $R_{DS(ON)}$ ,  $V_{GS}@-4.5V$ ,  $I_D@-4A < 55m\Omega$
- $R_{DS(ON)}$ ,  $V_{GS}@-2.5V$ ,  $I_D@-3A < 69m\Omega$
- $R_{DS(ON)}$ ,  $V_{GS}@-1.8V$ ,  $I_D@-1A < 94m\Omega$
- Excellent FOM
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case : DFN2020B-6L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0086 grams

DFN2020B-6L



### Maximum Ratings and Thermal Characteristics ( $T_A=25^\circ C$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNIT
Drain-Source Voltage		$V_{DS}$	-28	V
Gate-Source Voltage		$V_{GS}$	$\pm 12$	
Continuous Drain Current <sup>(Note 3)</sup>	$T_C=25^\circ C$	$I_D$	-15	A
	$T_C=100^\circ C$		-11	
Pulsed Drain Current <sup>(Note 1)</sup>	$T_C=25^\circ C$	$I_{DM}$	-30	
Power Dissipation	$T_C=25^\circ C$	$P_D$	22.1	W
	$T_C=100^\circ C$		11	
Continuous Drain Current <sup>(Note 4)</sup>	$T_A=25^\circ C$	$I_D$	-5.1	A
	$T_A=70^\circ C$		-4.3	
Power Dissipation	$T_A=25^\circ C$	$P_D$	2.3	W
	$T_A=70^\circ C$		1.6	
Operating Junction and Storage Temperature Range		$T_J, T_{STG}$	-55~175	$^\circ C$
Thermal Resistance <sup>(Note 4)</sup>	Junction to Case	$R_{\theta JC}$	6.8	$^\circ C/W$
	Junction to Ambient	$R_{\theta JA}$	65	

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## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

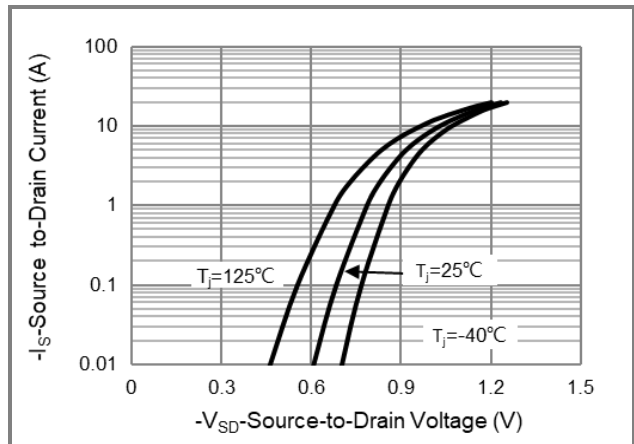
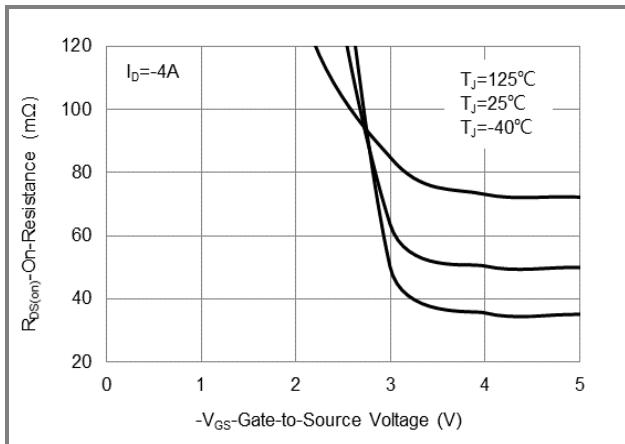
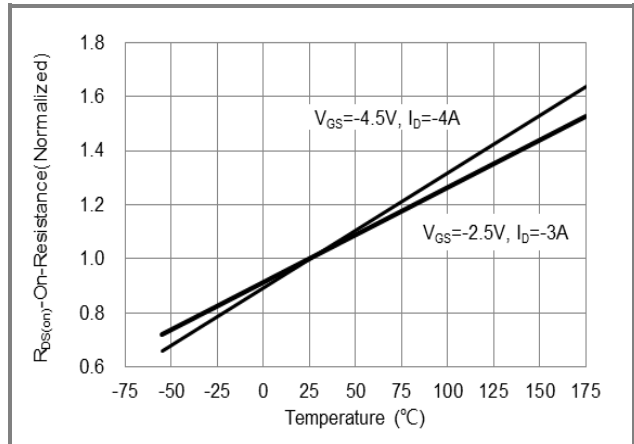
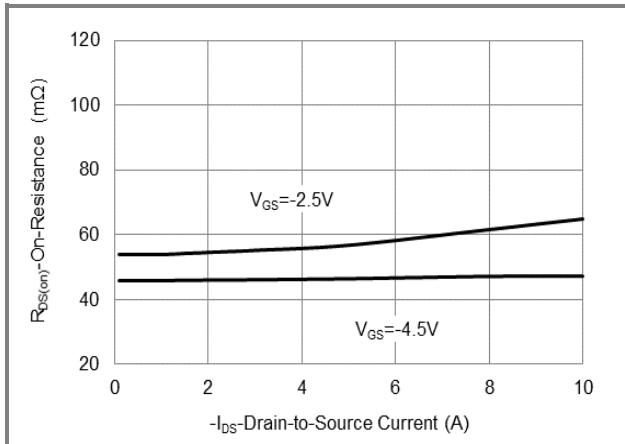
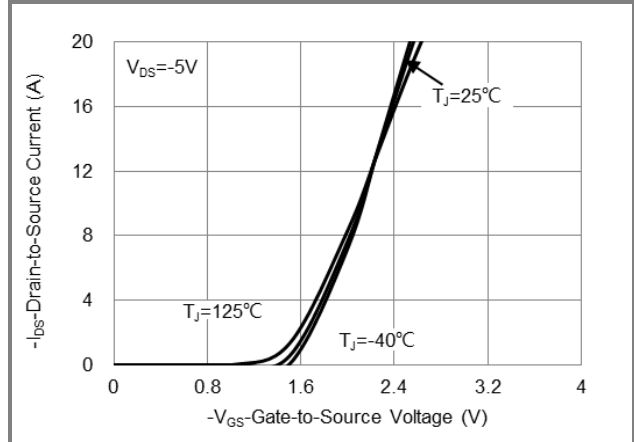
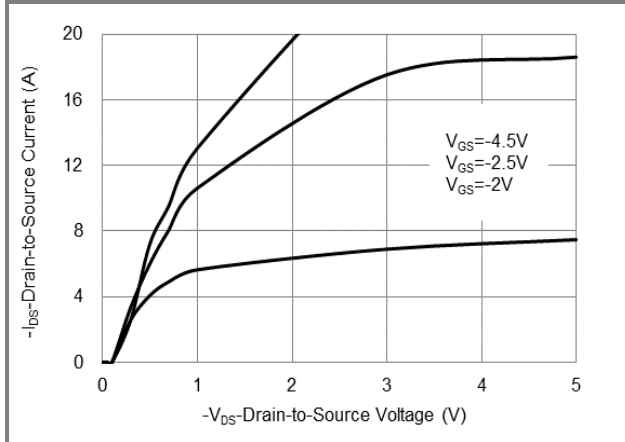
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
<b>Static</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250uA	-28	-	-	V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250uA	-0.45	-0.7	-1	
Drain-Source On-State Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-4A	-	45	55	mΩ
		V <sub>GS</sub> =-2.5V, I <sub>D</sub> =-3A	-	55	69	
		V <sub>GS</sub> =-1.8V, I <sub>D</sub> =-1A	-	72	94	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-28V, V <sub>GS</sub> =0V	-	-	-1	uA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±12V, V <sub>DS</sub> =0V	-	-	±100	nA
<b>Dynamic</b> (Note 6)						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-15V, I <sub>D</sub> =-4A, V <sub>GS</sub> =-4.5V(Note 2,3)	-	9.1	18	nC
Gate-Source Charge	Q <sub>gs</sub>		-	1.95	-	
Gate-Drain Charge	Q <sub>gd</sub>		-	2.8	-	
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-15V, V <sub>GS</sub> =0V, f=1MHz	-	1000	1300	pF
Output Capacitance	C <sub>oss</sub>		-	51	102	
Reverse Transfer Capacitance	C <sub>rss</sub>		-	52	104	
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DS</sub> =-15V, I <sub>D</sub> =-4A, V <sub>GS</sub> =-4.5V, R <sub>G</sub> =6Ω (Note 2,3)	-	4.7	-	ns
Turn-On Rise Time	t <sub>r</sub>		-	45	-	
Turn-Off Delay Time	t <sub>d(off)</sub>		-	66	-	
Turn-Off Fall Time	t <sub>f</sub>		-	10	-	
<b>Drain-Source Diode</b>						
Diode Forward Current	I <sub>S</sub>	T <sub>C</sub> =25°C	-	-	-15	A
Pulsed Diode Forward Current	I <sub>SM</sub>	(Package Limit)	-	-	-30	
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-4A, V <sub>GS</sub> =0V	-	-0.9	-1.3	V
Reverse Recovery Time	T <sub>rr</sub>	V <sub>DD</sub> =-15V, V <sub>GS</sub> =0V	-	13	-	ns
Reverse Recovery Charge	Q <sub>rr</sub>	I <sub>S</sub> =-4A, dI <sub>S</sub> /dt=100A/us	-	8	-	nC

NOTES :

1. Pulse width ≤ 300us, Duty cycle ≤ 2%.
2. Essentially independent of operating temperature typical characteristics.
3. Chip capability with an R<sub>θJC</sub>=6.8°C/W.
4. R<sub>θJA</sub> 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<sup>2</sup> with 2oz.square pad of copper.
5. Guaranteed by design, not subject to production testing.

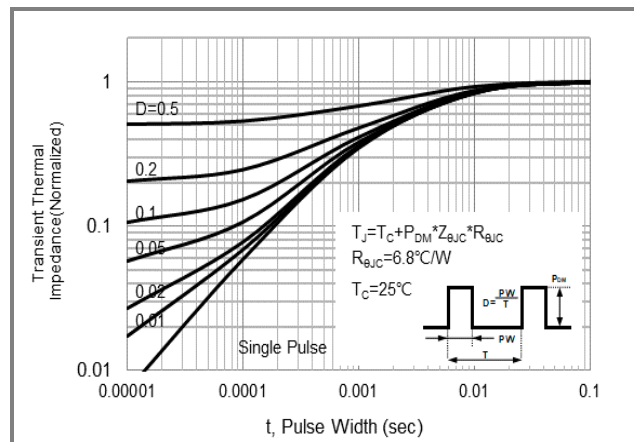
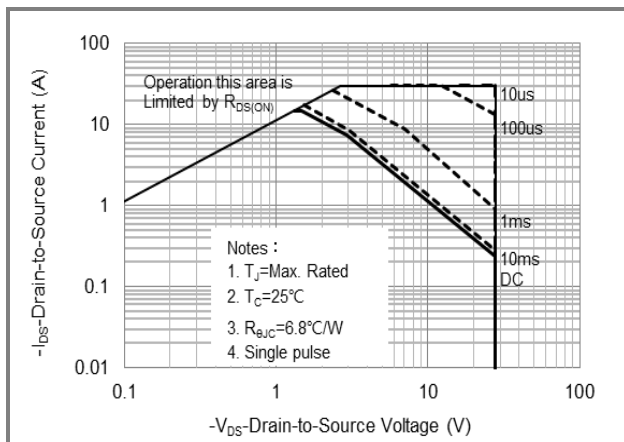
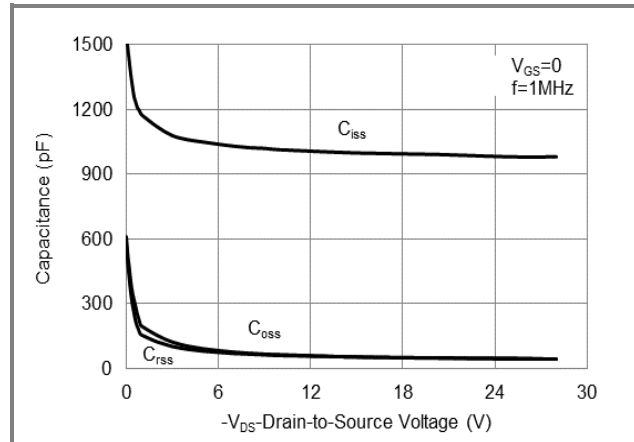
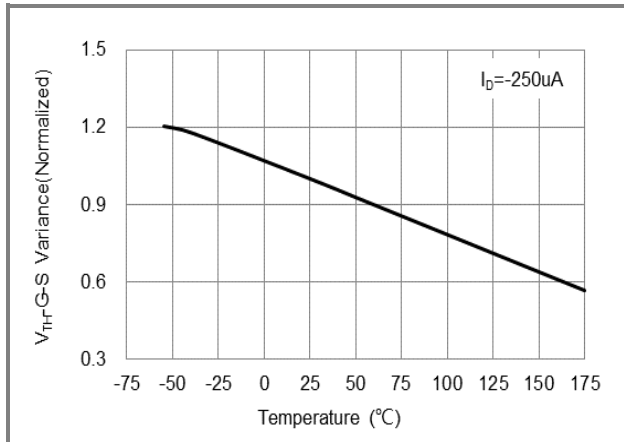
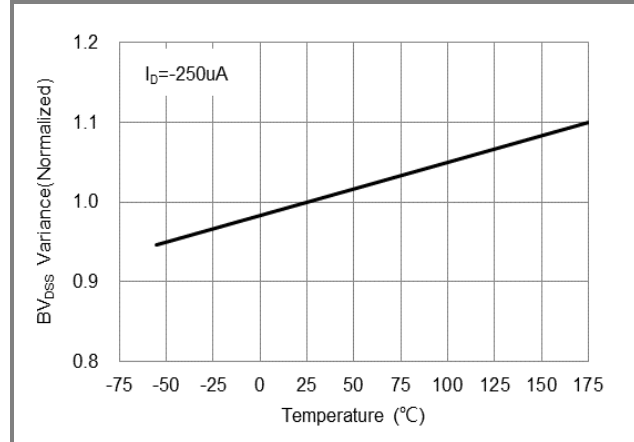
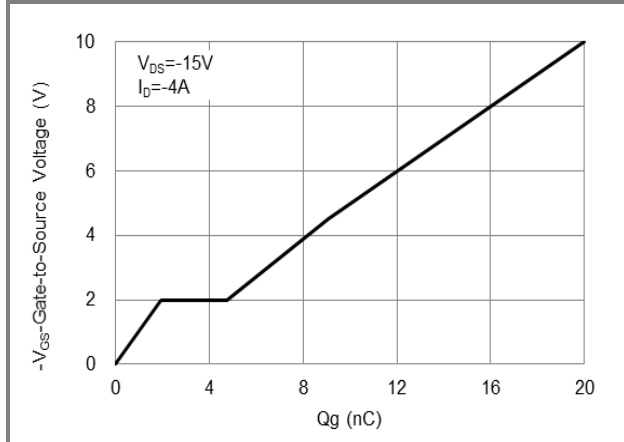
# PJQ2437L-AU

## TYPICAL CHARACTERISTIC CURVES



# PJQ2437L-AU

## TYPICAL CHARACTERISTIC CURVES

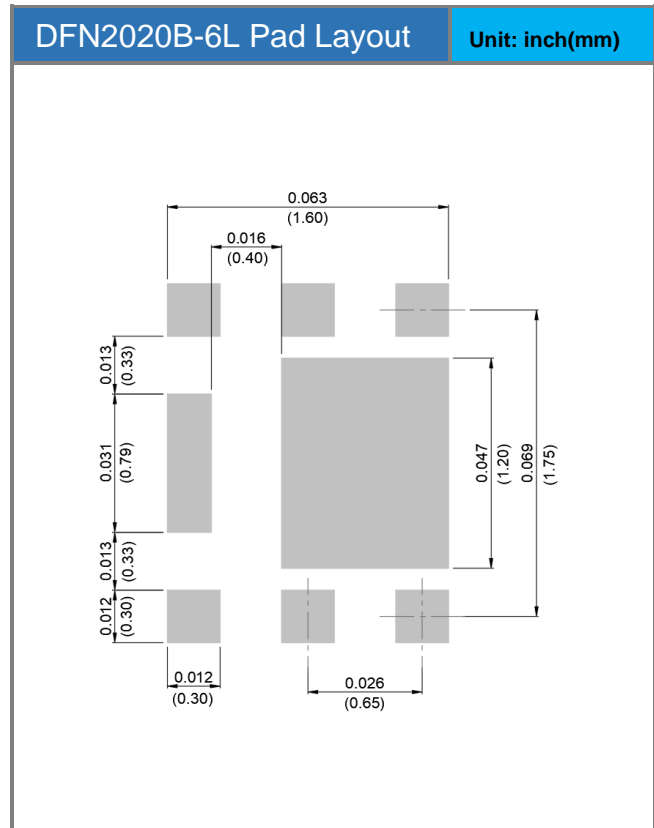
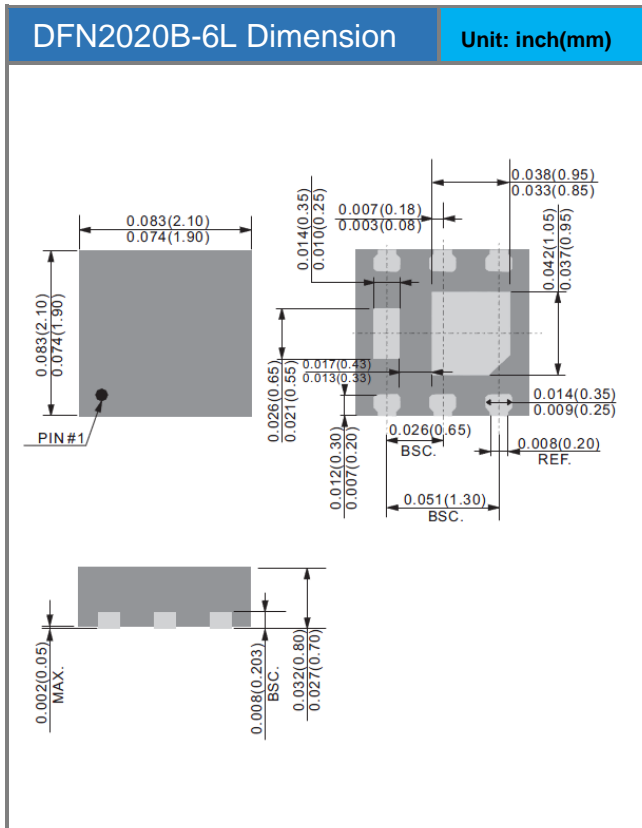


# PJQ2437L-AU

## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PJQ2437L-AU	DFN2020B-6L	3K pcs / 7" reel	47L

## Packaging Information & Mounting Pad Layout



## PJQ2437L-AU

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