



## PJZ22NA50A

### 500V N-Channel MOSFET

Voltage

500 V

Current

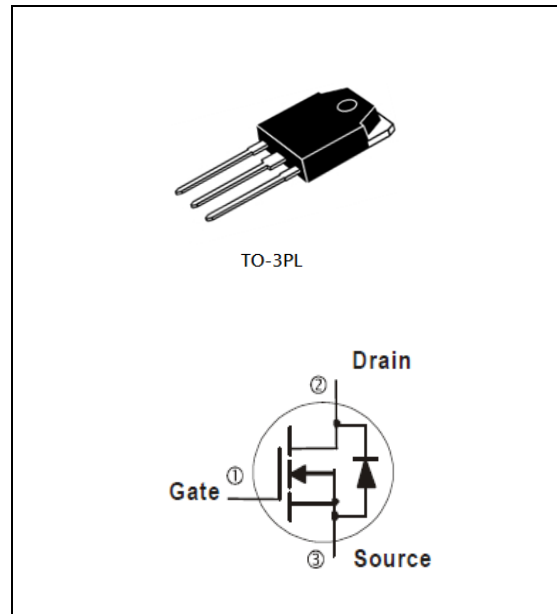
22 A

#### Features

- $R_{DS(ON)}, V_{GS}@10V, I_D@10A < 0.27\Omega$
- High switching speed
- Improved dv/dt capability
- Low Gate Charge
- Low reverse transfer capacitance
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std. (Halogen Free)

#### Mechanical Data

- Case: TO-3PL Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- TO-3PL Approx. Weight : 0.182 ounces, 5.174 grams



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

PARAMETER	SYMBOL	LIMIT	UNITS
Drain-Source Voltage	$V_{DS}$	500	V
Gate-Source Voltage	$V_{GS}$	$\pm 30$	V
Continuous Drain Current	$I_D$	22	A
Pulsed Drain Current	$I_{DM}$	88	A
Single Pulse Avalanche Energy <sup>(Note 1)</sup>	$E_{AS}$	1500	mJ
Power Dissipation	$P_D$	$T_C=25^\circ\text{C}$	260
		Derate above $25^\circ\text{C}$	2.08
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~150	$^\circ\text{C}$
Thermal resistance			$^\circ\text{C/W}$
- Junction to Case	$R_{\theta JC}$	0.48	
- Junction to Ambient	$R_{\theta JA}$	50	

- Limited only By Maximum Junction Temperature



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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
<b>Static</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	500	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3	4	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$	-	-	0.27	$\Omega$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=500V, V_{GS}=0V$	-	-	1	$\mu A$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 30V, V_{DS}=0V$	-	-	$\pm 100$	nA
Diode Forward Voltage	$V_{SD}$	$I_S=20A, V_{GS}=0V$	-	-	1.4	V
<b>Dynamic</b>						
Total Gate Charge	$Q_g$	$V_{DS}=400V, I_D=20A,$ $V_{GS}=10V$ (Note 2,3)	-	44	-	nC
Gate-Source Charge	$Q_{gs}$		-	18	-	
Gate-Drain Charge	$Q_{gd}$		-	14	-	
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V,$ $f=1.0\text{MHz}$	-	2520	-	pF
Output Capacitance	$C_{oss}$		-	410	-	
Reverse Transfer Capacitance	$C_{rss}$		-	10	-	
<b>Switching</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V, I_D=20A,$ $R_G=25\Omega$ (Note 2,3)	-	72	-	ns
Turn-On Rise Time	$t_r$		-	142	-	
Turn-Off Delay Time	$t_{d(off)}$		-	128	-	
Turn-Off Fall Time	$t_f$		-	84	-	
<b>Drain-Source Diode</b>						
Maximum Continuous Drain-Source Diode Forward Current	$I_S$	---	-	-	22	A
Maximum Pulsed Drain-Source Diode Forward Current	$I_{SM}$	---	-	-	88	A

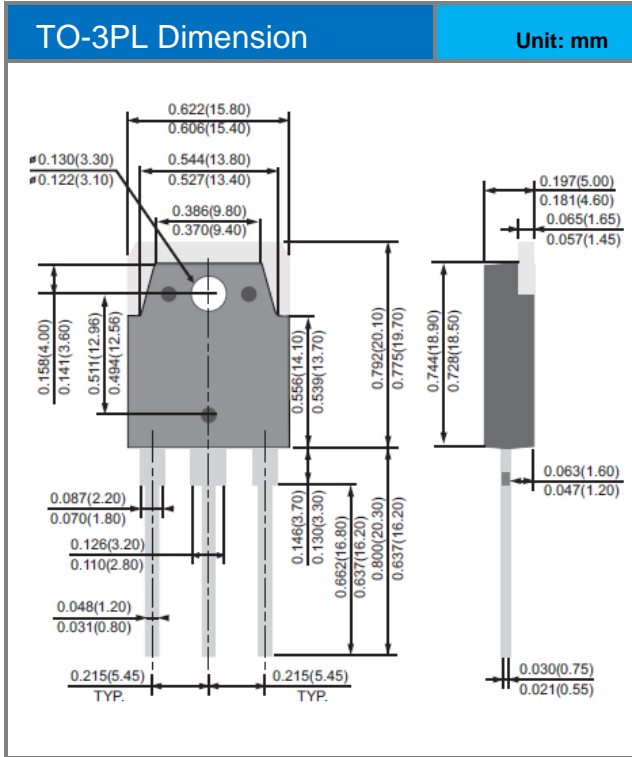
**NOTES :**

1.  $L=30\text{mH}, I_{AS}=10A, V_{DD}=140V, R_G=25\text{ohm},$  Starting  $T_J=25^{\circ}\text{C}$
2. Pulse width  $\leq 300\mu s,$  Duty cycle  $\leq 2\%$
3. Essentially independent of operating temperature typical characteristics.



# PJZ22NA50A

## Packaging Information





## PJZ22NA50A

### PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJZ22NA50A_T0_10001	TO-3PL	30pcs/tube	22NA50A	Rohs



## PJZ22NA50A

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