

PJF4NA65A

650V N-Channel MOSFET

Voltage

650 V

Current

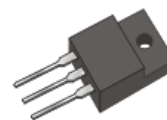
4 A

Features

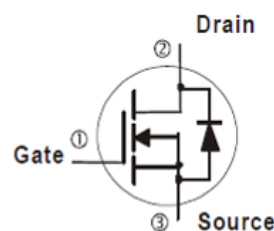
- $R_{DS(ON)}, V_{GS}@10V, I_D@2A < 2.7\Omega$
- High switching speed
- Improved dv/dt capability
- Low Gate Charge
- Low reverse transfer capacitance
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std.
(Halogen Free)

Mechanical Data

- Case : ITO-220AB-F Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.068 ounces, 2 grams



ITO-220AB-F



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

PARAMETER		SYMBOL	ITO-220AB-F	UNITS
Drain-Source Voltage		V_{DS}	650	V
Gate-Source Voltage		V_{GS}	± 30	V
Continuous Drain Current		I_D	4	A
Pulsed Drain Current		I_{DM}	16	A
Single Pulse Avalanche Energy ^(Note 1)		E_{AS}	202	mJ
Power Dissipation	$T_C=25^\circ\text{C}$	P_D	33	W
	Derate above 25°C		0.26	W/ $^\circ\text{C}$
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	$^\circ\text{C}$
Typical Thermal resistance				$^\circ\text{C/W}$
- Junction to Case		$R_{\theta JC}$	3.79	
- Junction to Ambient		$R_{\theta JA}$	120	

- Limited only By Maximum Junction Temperature



PJF4NA65A

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

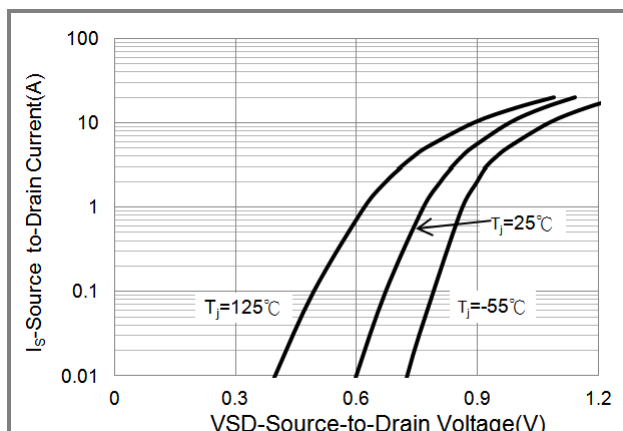
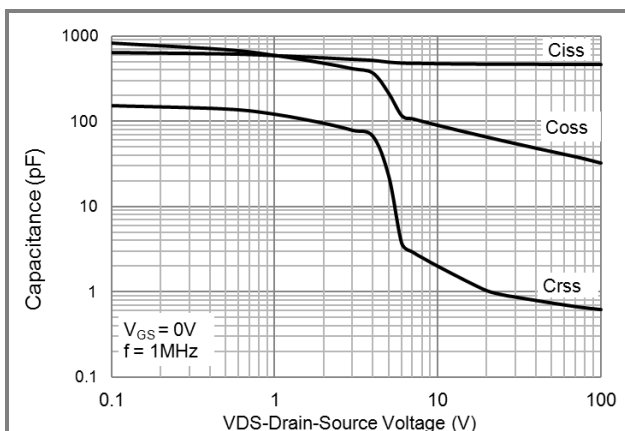
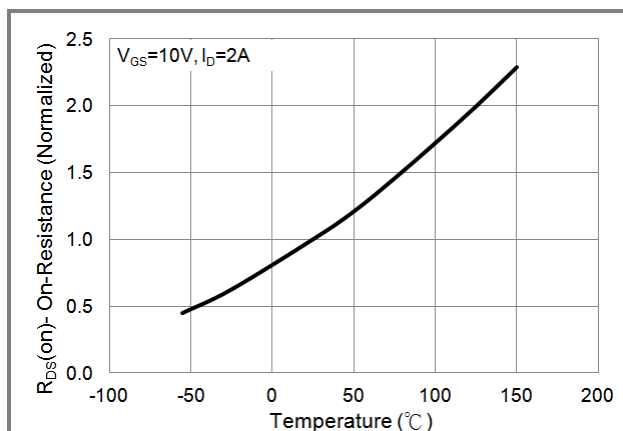
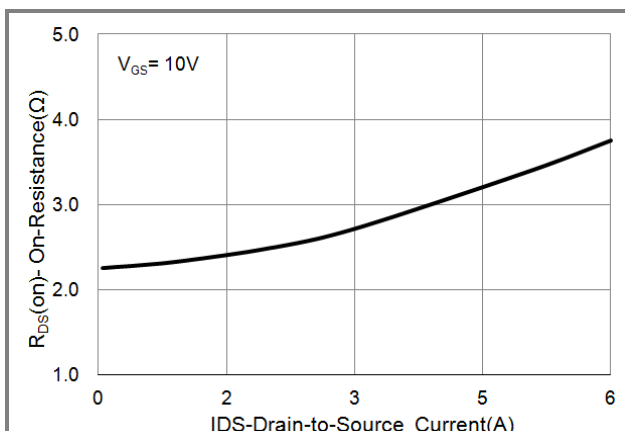
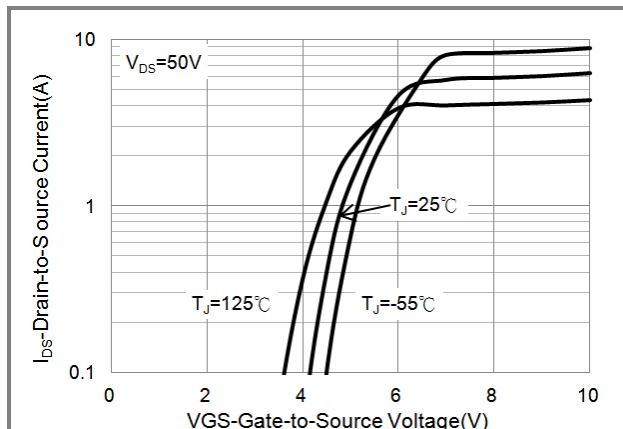
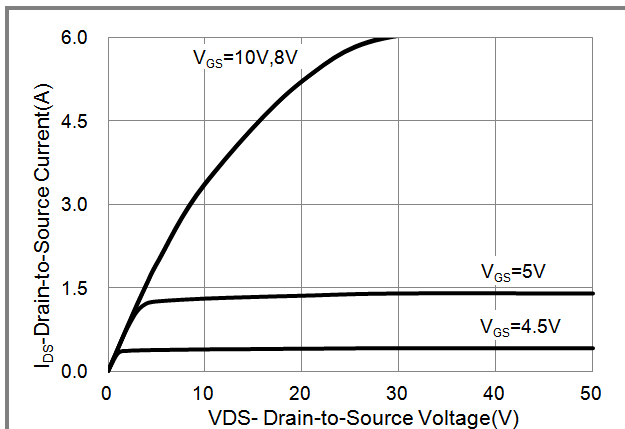
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	650	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250uA	2	3	4	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =2A	-	2.5	2.7	Ω
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =650V, V _{GS} =0V	-	-	1.0	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V	-	-	±100	nA
Diode Forward Voltage	V _{SD}	I _S =4A, V _{GS} =0V	-	0.76	1.4	V
Dynamic (Note 4)						
Total Gate Charge	Q _g	V _{DS} =520V, I _D =4A, V _{GS} =10V (Note 2,3)	-	18	-	nC
Gate-Source Charge	Q _{gs}		-	3.3	-	
Gate-Drain Charge	Q _{gd}		-	8.3	-	
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1.0MHZ	-	555	-	pF
Output Capacitance	C _{oss}		-	55.4	-	
Reverse Transfer Capacitance	C _{rss}		-	2.41	-	
Turn-On Delay Time	td _(on)	V _{DD} =325V, I _D =4A, R _G =25Ω (Note 2,3)	-	11	-	ns
Turn-On Rise Time	t _r		-	25	-	
Turn-Off Delay Time	td _(off)		-	52	-	
Turn-Off Fall Time	t _f		-	29	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S	---	-	-	4	A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}	---	-	-	16	A
Reverse Recovery Time	trr	V _{GS} =0V, I _S =4A	-	266	-	ns
Reverse Recovery Charge	Qrr	dl _F / dt=100A/us (Note 2)	-	2.24	-	uC

NOTES :

1. $L=30mH, I_{AS}=3.6A, V_{DD}=50V, R_G=25\Omega$, 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.
4. Guaranteed by design, not subject to production testing

PJF4NA65A

TYPICAL CHARACTERISTIC CURVES



PJF4NA65A

TYPICAL CHARACTERISTIC CURVES

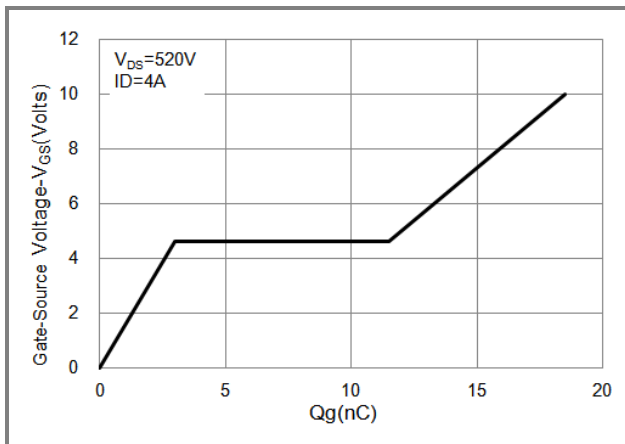


Fig.7 Gate Charge

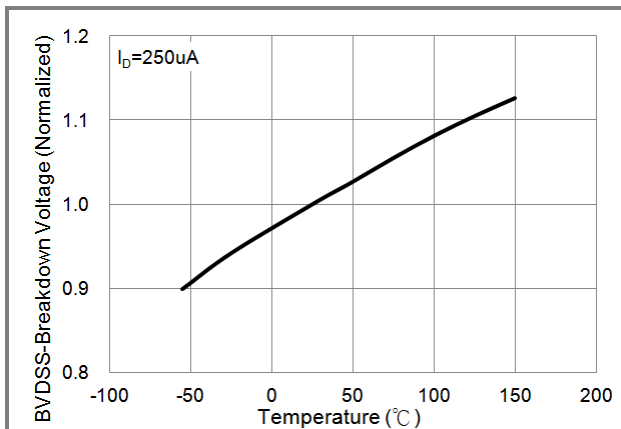


Fig.8 BV_{DS} vs. Junction Temperature

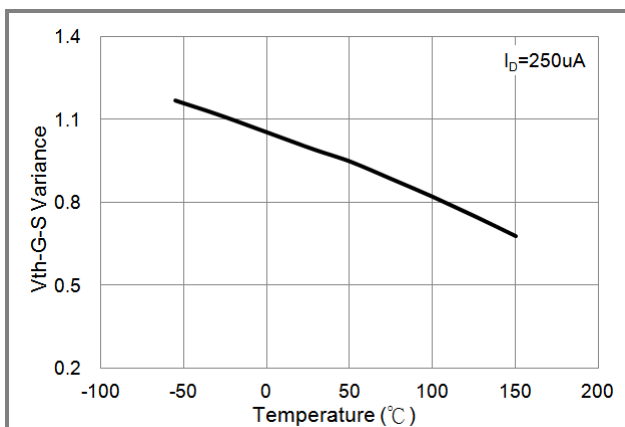


Fig.9 Threshold Voltage Variation with Temperature

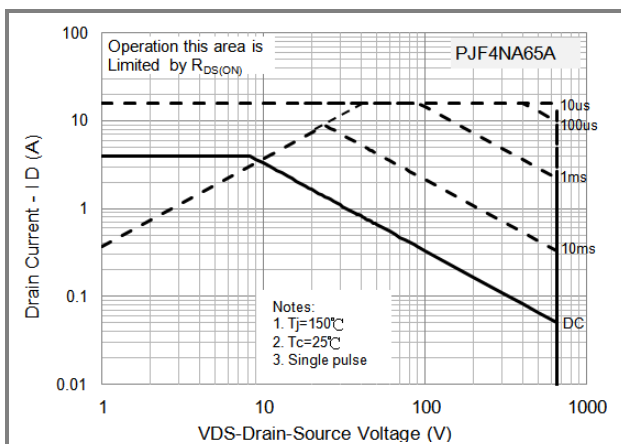


Fig.10 Maximum Safe Operating Area

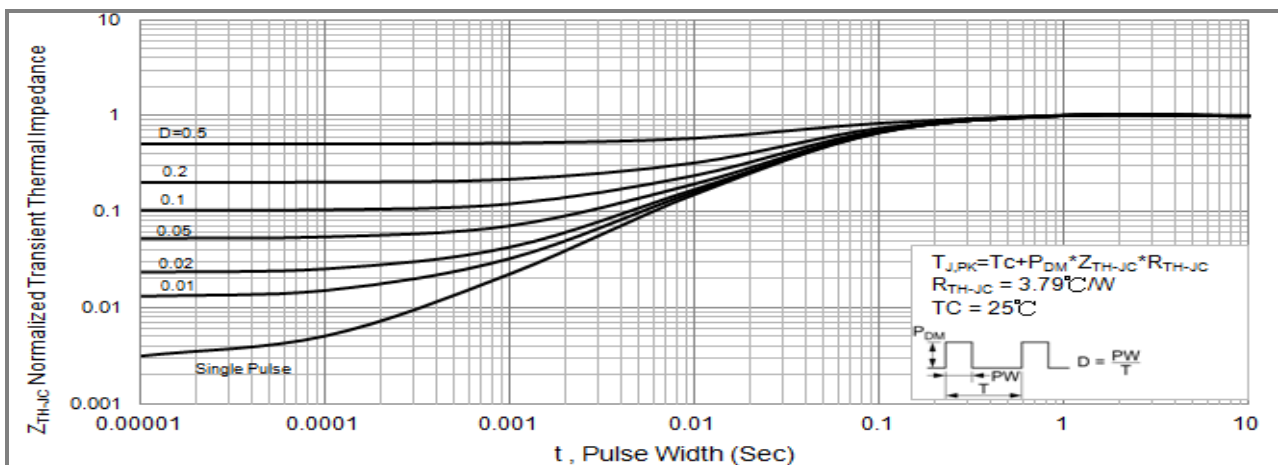
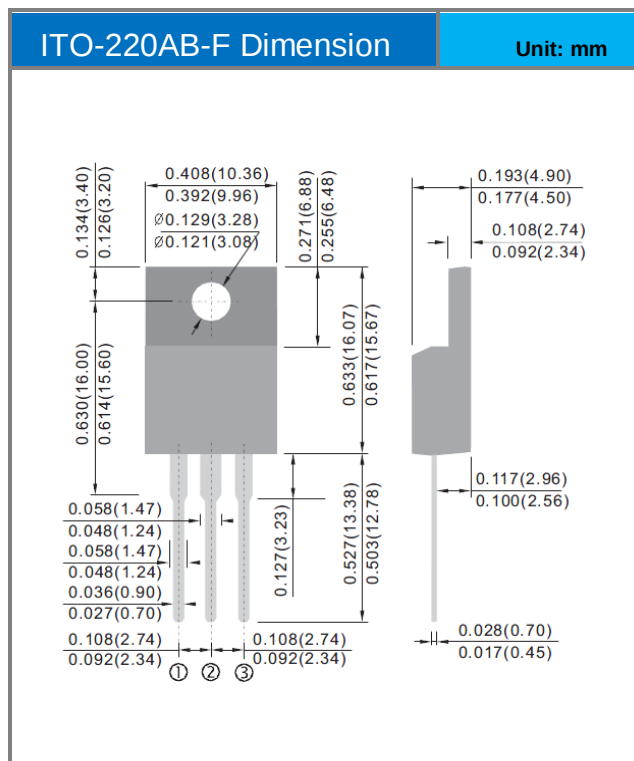


Fig.11 PJF4NA65A Normalized Transient Thermal Impedance vs. Pulse Width

PJF4NA65A

Packaging Information





PJF4NA65A

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJF4NA65A _T0_00001	ITO-220AB-F	50pcs / Tube	F4NA65A	Halogen free



PJF4NA65A

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