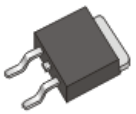
PANJIT SEMICONDUCTOR

Preliminary

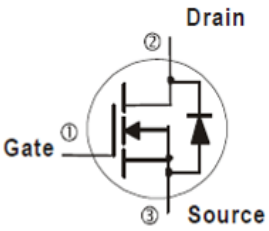
PJD55N03

30V N-Channel MOSFET

Voltage	30 V	Current	55A



TO-252AA



Features

- $R_{DS(ON)}$, V_{GS}@10V,I_D@16A<9mΩ
- $R_{DS(ON)}$, V_{GS}@4.5V,I_D@8A<13mΩ
- 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: TO-252AA Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- TO-252AA Approx. Weight : 0.0104 ounces, 0.297grams

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

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C=25°C	I_D	55	A
	T_C=100°C		35	
Pulsed Drain Current(Note 1)	T_C=25°C	I_{DM}	220	
Power Dissipation	T_C=25°C	P_D	40	W
	T_C=100°C		16	
Continuous Drain Current	T_A=25°C	I_D	12.2	A
	T_A=70°C		9.7	A
Power Dissipation	T_A=25°C	P_D	2	W
Power Dissipation	T_A=70°C		1.3	
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Typical Thermal resistance(Note 4,5)	Junction to Case	$R_{\theta JC}$	3.1	°C/W
	Junction to Ambient	$R_{\theta JA}$	62.5	

- Limited only By Maximum Junction Temperature

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Electrical Characteristics (T_A=25°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	30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250uA	1	1.6	2.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=16A	-	7.7	9	mΩ
		V_{GS}=4.5V,I_D=8A	-	10	13	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V,V_{GS}=0V	-	-	1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V	-	-	±100	nA
Dynamic (Note 4)						
Total Gate Charge	Q_g	V_{DS}=15V, I_D=20A, V_{GS}=4.5V (Note 2,3)	-	7.2	-	nC
Gate-Source Charge	Q_{gs}		-	1	-	
Gate-Drain Charge	Q_{gd}		-	4.2	-	
Input Capacitance	Ciss	V_{DS}=25V, V_{GS}=0V, f=1.0MHZ	-	740	-	pF
Output Capacitance	Coss		-	130	-	
Reverse Transfer Capacitance	Crss		-	100	-	
Turn-On Delay Time	$td_{(on)}$	V_{DS}=15V,I_D=15A, V_{GS}=10V, R_G=3.3Ω (Note 2,3)	-	4.2	-	ns
Turn-On Rise Time	t_r		-	12.2	-	
Turn-Off Delay Time	$td_{(off)}$		-	27.4	-	
Turn-Off Fall Time	t_f		-	7.8	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	55	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V	-	-	1	V

NOTES:

1. Pulse width≤300us, Duty cycle≤2%
2. Essentially independent of operating temperature typical characteristics
3. Repetitive rating, pulse width limited by junction temperature TJ(MAX)=150°C. Ratings are based on low frequency and duty cycles to keep initial TJ =25°C.
4. The maximum current rating is package limited
5. $R\Theta_{JA}$ 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 $inch^2$ with 2oz.square pad of copper.
6. Guaranteed by design, not subject to production testing

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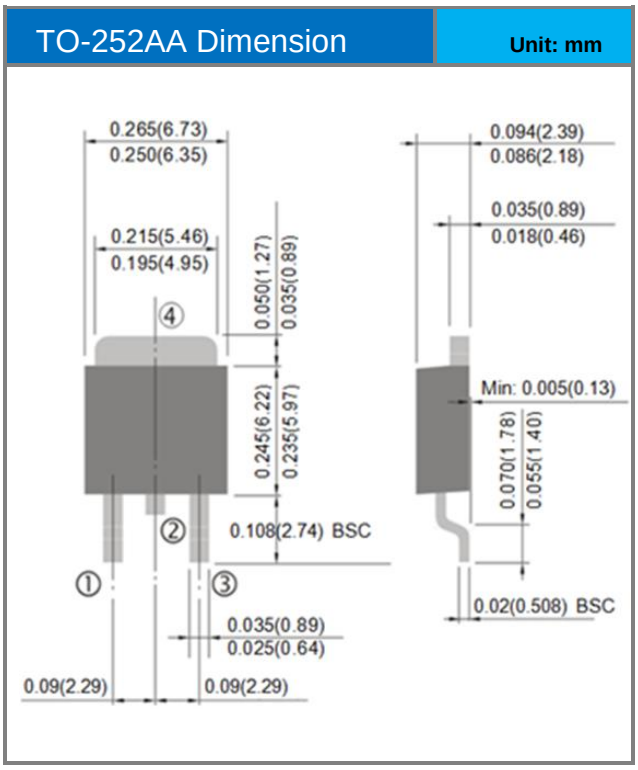
Packaging Information .

TO-252AA Dimension Unit: mm

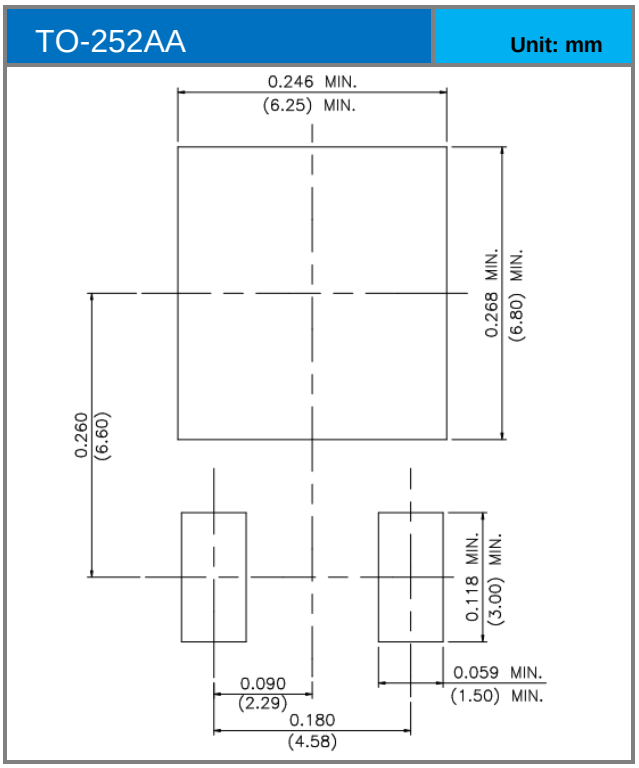


PJD55N03

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJD55N03_L2_00001	TO-252AA	3,000pcs / 13” reel	D55N03	Halogen free

MOUNTING PAD LAYOUT



PJD55N03

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