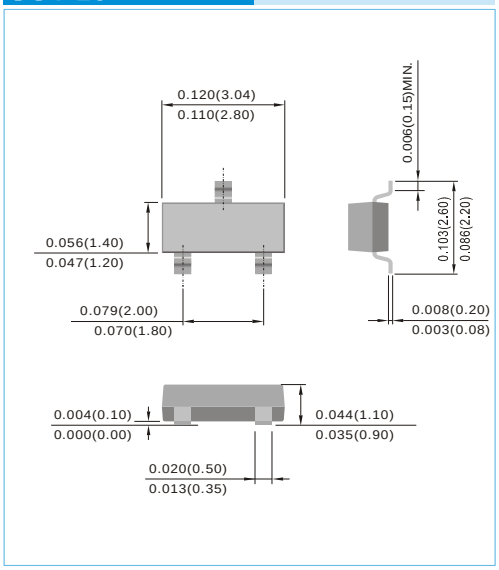
PJA94N03

30V N-CHANNEL ENHANCEMENT MODE MOSFET

VOLTAGE 30 Volt **CURRENT** 2.9 Ampere

SOT-23 Unit : inch(mm)



FEATURES

- $R_{DS(ON)}$, V_{GS}@10V,I_D@3.1A< 57 mΩ
- $R_{DS(ON)}$, V_{GS}@4.5V,I_D@2.8A< 94 mΩ
- Advanced Trench Process Technology
- High Density Cell Design For Ultra Low On-Resistance
- Specially Designed for DC/DC Converters
- Low Gate Charge
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case : SOT-23 Package
- Terminals : Solderable per MIL-STD-750,Method 2026
- Apporx. Weight : 0.0003 ounces, 0.0084grams
- Marking : 94

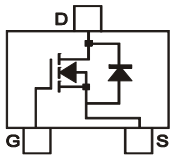


Fig.19 (TOP VIEW)

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	Steady-State	T_A=25°C	I_D	2.9	A
Pulsed Drain Current			I_{DM}	16	A
Power Dissipation (Notes 1)	Steady-State	T_A=25°C	P_D	0.7	W
Typical Thermal Resistance (Notes 1)			$R_{\theta JA}$	176	°C/W
Operating Junction and Storage Temperature Range			T_J,T_{STG}	-55 to + 150	°C

NOTES : 1. Mounted on 7.5cm^2 FR-4 PCB .

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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=250μA	30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D= 250μA	1.0	2.0	3.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}= 10V, I_D= 3.1A	-	27	57	mΩ
		V_{GS}= 4.5V, I_D= 2.8A	-	40	94	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= 30V, V_{GS}=0V	-	-	0.5	μA
Gate -Source Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
Diode Forward Voltage	V_{SD}	I_S= 1.25A, V_{GS}=0V	-	0.9	1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}= 15V, I_D= 3.1A V_{GS}= 10V	-	12.63	-	nC
Gate-Source Charge	Q_{gs}		-	2.25	-	
Gate-Drain Charge	Q_{gd}		-	2.62	-	
Turn-On Delay Time	td_{on}	V_{DS}= 15V , V_{GS}= 10V, R_G= 6Ω , R_L= 5Ω	-	11.6	-	ns
Turn-Off Delay Time	td_{off}		-	35.2	-	
Turn-On Rise Time	t_r		-	19.6	-	
Turn-Off Fall Time	t_f		-	8.2	-	
Input Capacitance	C_{iss}	V_{DS}= 15V, V_{GS}=0V f=1.0MH_z	-	607	-	pF
Output Capacitance	C_{oss}		-	66	-	
Reverse Transfer Capacitance	C_{rss}		-	59	-	

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RATING AND CHARACTERISTIC CURVES

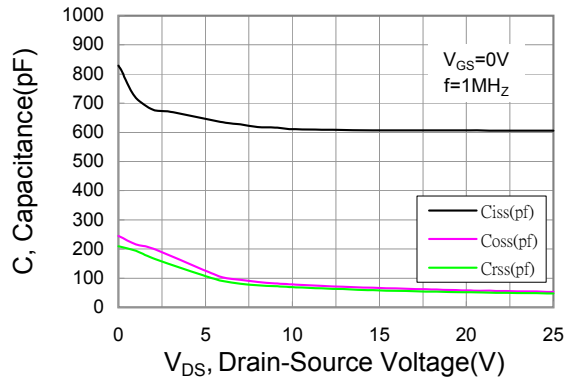

Fig.1 Capacitance Variation

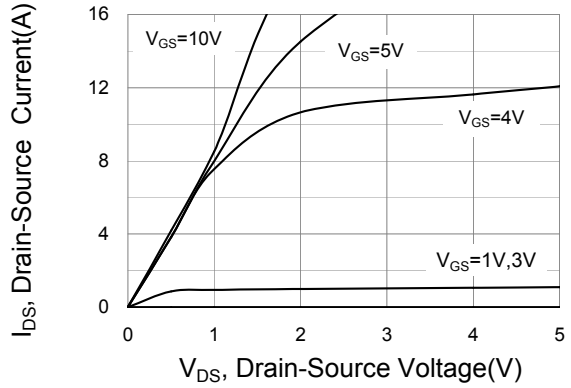

Fig.2 Drain-Source Current VS Drain-Source Voltage

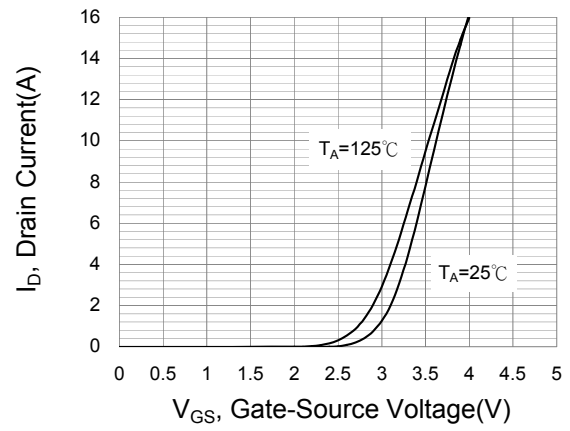

Fig.3 Drain Current VS Gate-Source Voltage

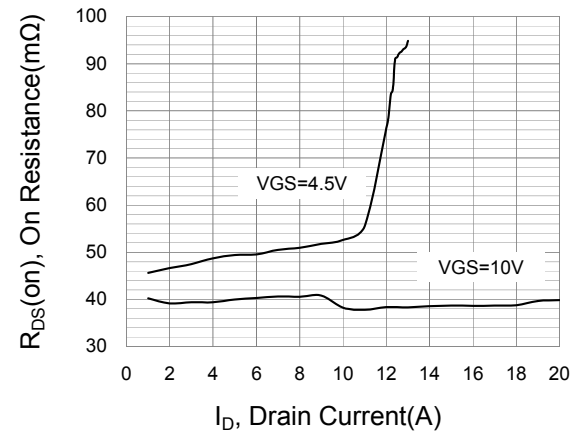

Fig.4 On-Resistance VS Drain Current

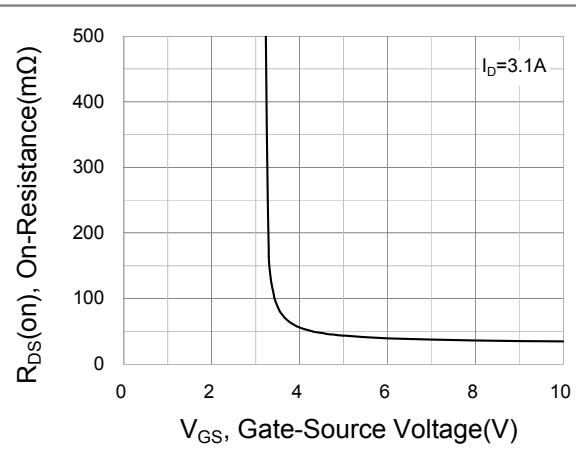

Fig.5 On-Resistance VS Gate-Source voltge

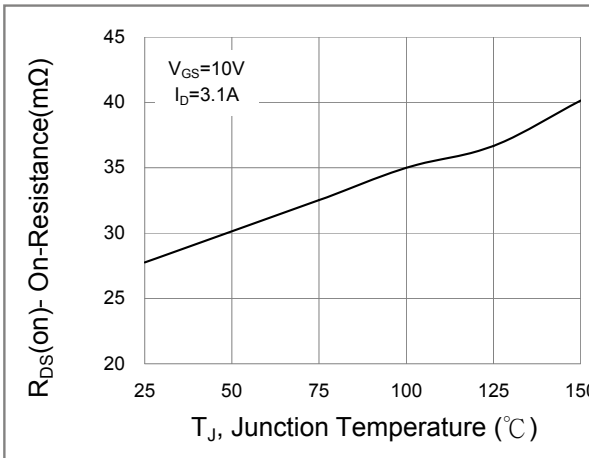

Fig.6 On-Resistance VS Junction Temperature

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RATING AND CHARACTERISTIC CURVES

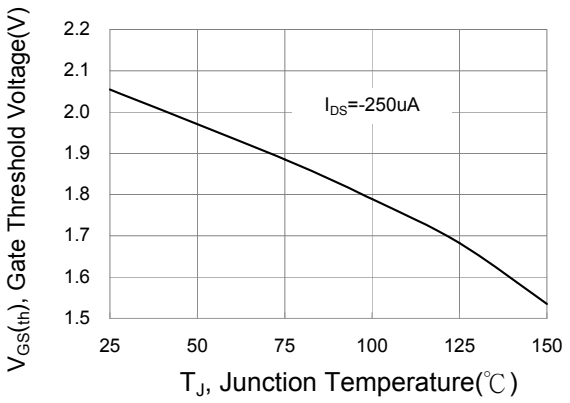

Fig.7 Gate Threshoid Voltage VS Junction Temperature

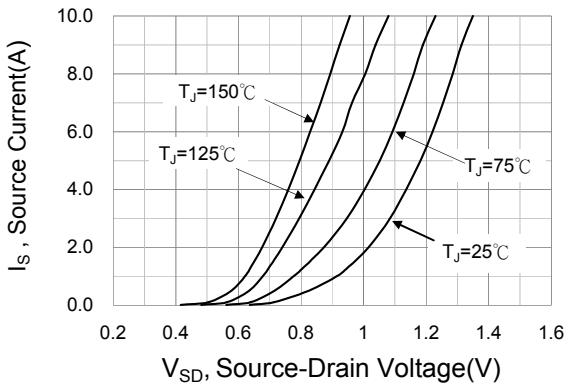

Fig.8 Body diode forward voltage

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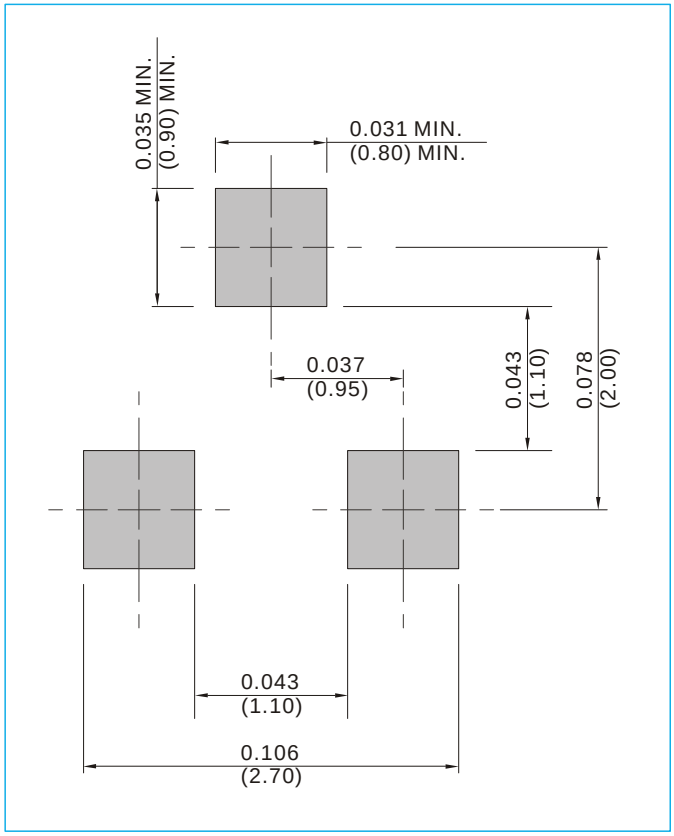
MOUNTING PAD LAYOUT

SOT-23 Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 12K per 13" plastic Reel

  T/R - 3K per 7" plastic Reel

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Part No_packing code_Version

PJA94N03_R1_00001

PJA94N03_R2_00001

For example :

RB500V-40_R2_00001

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

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