

PJA87P03

30V P-Channel ENHANCEMENT MODE MOSFET

Voltage

30 V

Current

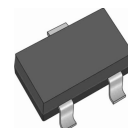
4 A

Features

- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-3A < 87\text{ m}\Omega$
- $R_{DS(ON)}$, $V_{GS}@-10V$, $I_D@-4.1A < 55\text{ m}\Omega$
- 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 comply with EU RoHS 2002/95/EC directives.
- 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, 0.0084 grams
- Marking:87



SOT-23

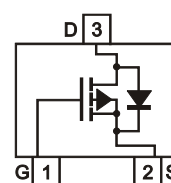


Fig.80 (TOP VIEW)

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

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V _{DS}	-30	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	Ta=25°C	I _D	-4	A
	Ta=70°C		-3.5	
Pulsed Drain Current ^(Note 1)		I _{DM}	20	A
Power Dissipation ^(Note 1)	T _a =25°C	P _D	1.19	W
	T _a =70°C		0.75	
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55 to +150	°C
Thermal resistance		R _{θJA}	125	°C/W
- Junction to Ambient ^(Note 1)				



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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	-30	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-1	-1.55	-3	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-4.1A	-	46	55	mΩ
		V _{GS} =-4.5V, I _D =-3A	-	69	87	
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
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V	-	-0.81	-1	V
Dynamic						
Total Gate Charge	Q _g	V _{DS} =-15V, I _D =-4A, V _{GS} =-4.5V	-	6.1	-	nC
Gate-Source Charge	Q _{gs}		-	2	-	
Gate-Drain Charge	Q _{gd}		-	2.3	-	
Input Capacitance	C _{iss}	V _{DS} =-15V, V _{GS} =0V, f=1.0MHZ	-	629	-	pF
Output Capacitance	C _{oss}		-	73	-	
Reverse Transfer Capacitance	C _{rss}		-	61	-	
Switching						
Turn-On Delay Time	td _(on)	V _{DS} =-15V, V _{GS} =-10V, R _G =3.3Ω, R _G =3.9Ω,	-	55	-	ns
Turn-Off Delay Time	td _(off)		-	22.5	-	
Turn-On Rise Time	t _r		-	33.9	-	
Turn-Off Fall Time	t _f		-	9.8	-	

NOTES:

1. Mounted on 1 in² FR-4 PCB.

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TYPICAL CHARACTERISTIC CURVES

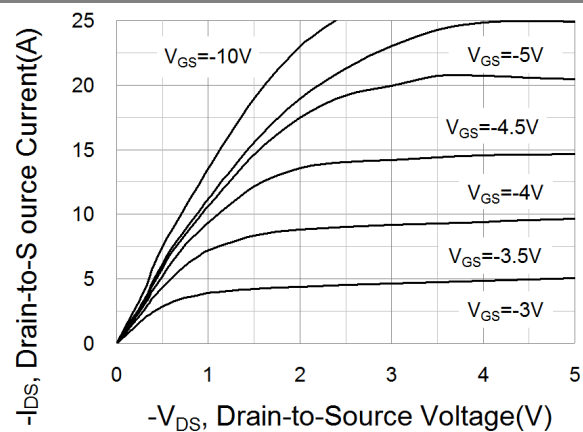


Fig.1 Output Characteristics

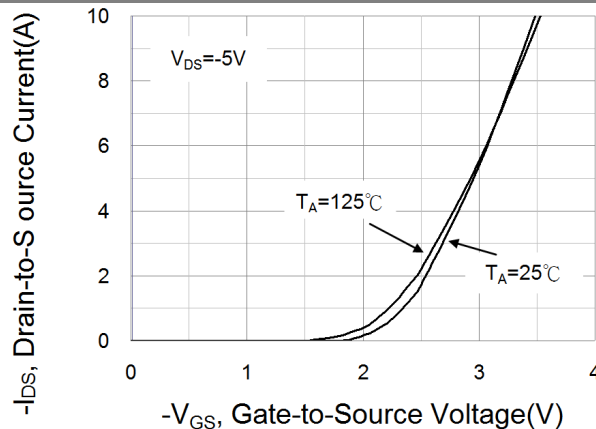


Fig.2 Transfer Characteristics

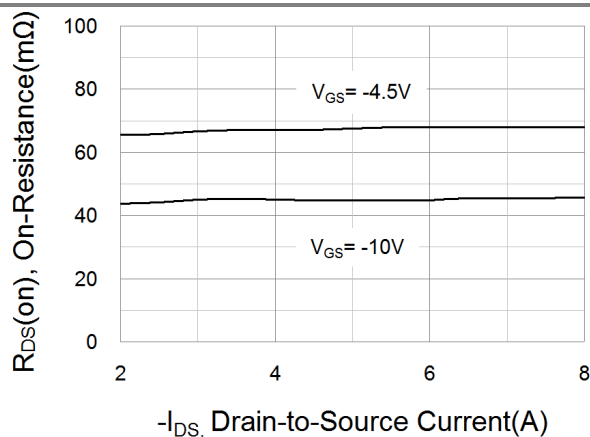


Fig.3 On-Resistance vs. Drain Current

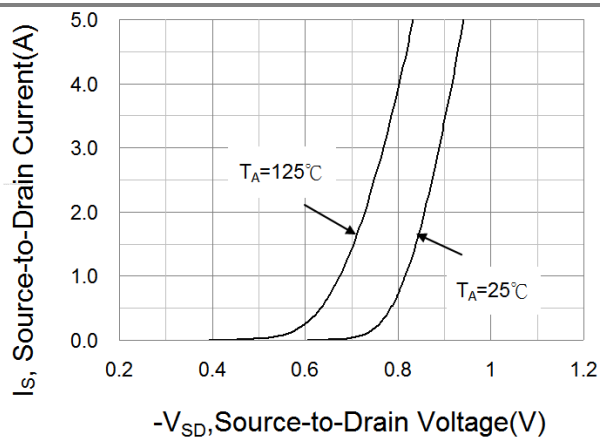


Fig.4 Source-Drain Diode Forward Voltage

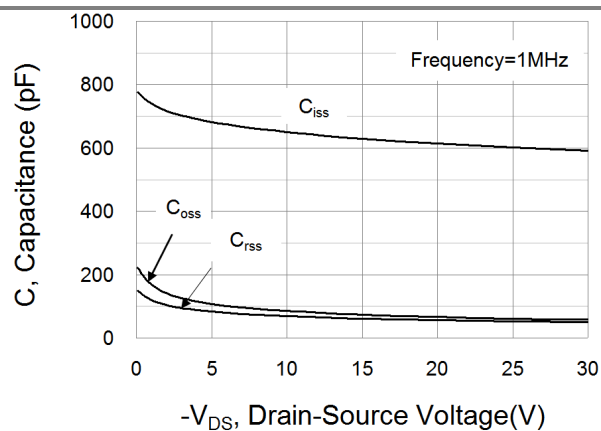


Fig.5 Capacitance vs. Drain-Source Voltage

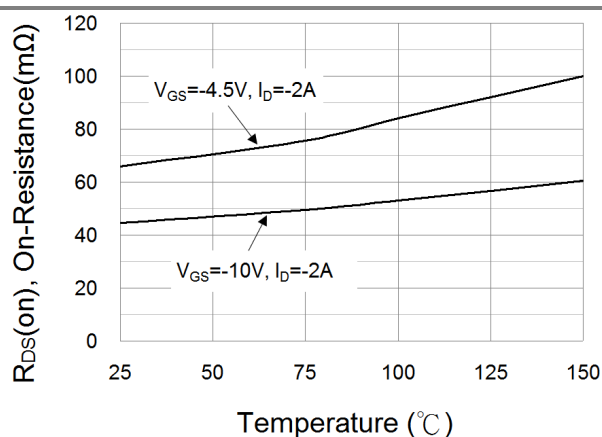


Fig.6 On-Resistance vs. Junction temperature



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TYPICAL CHARACTERISTIC CURVES

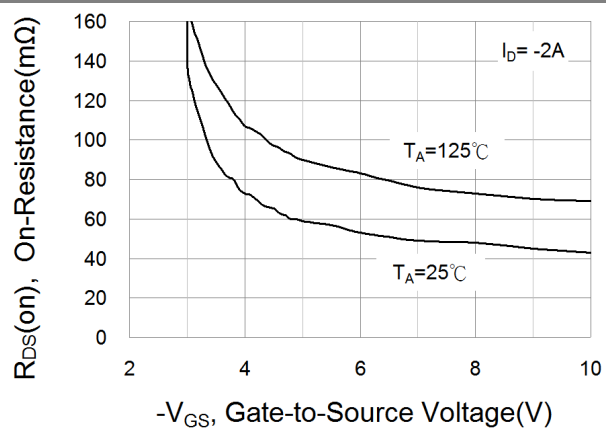
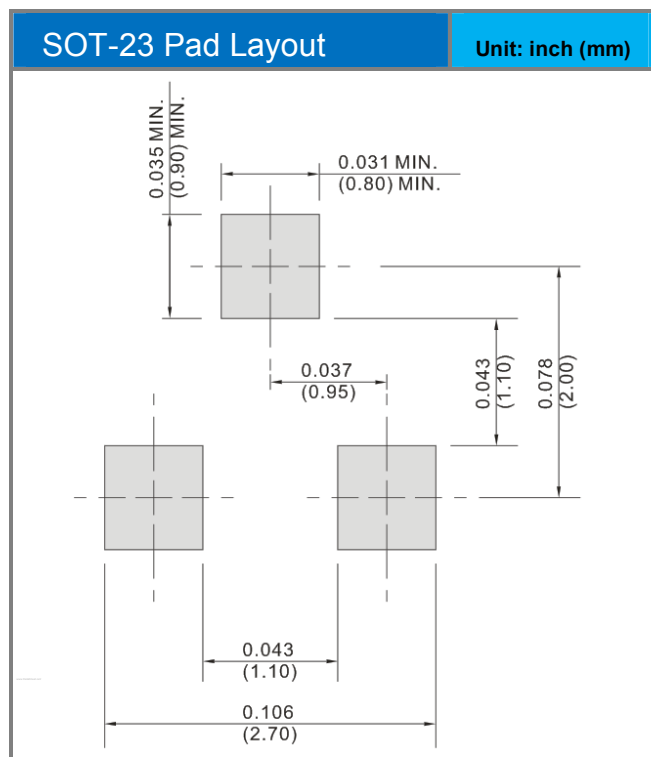
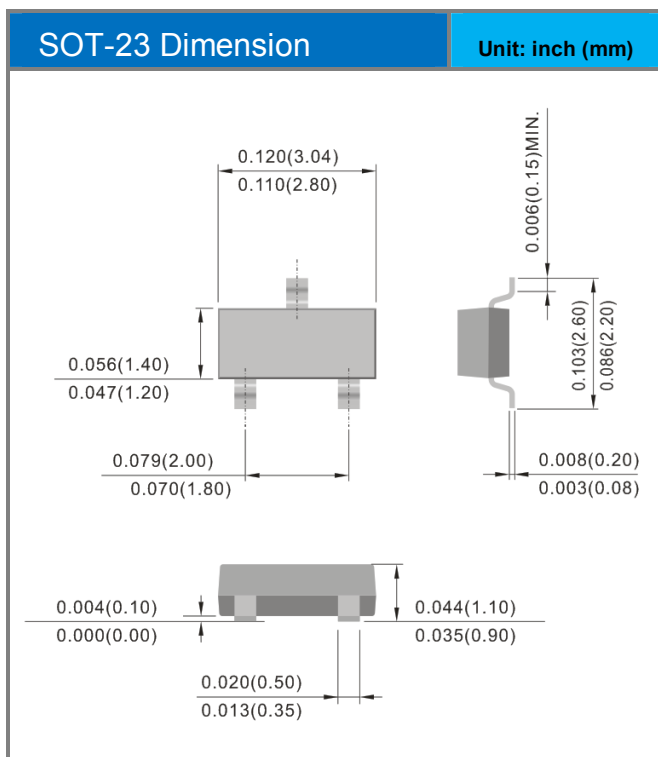


Fig.7 On-Resistance vs. Gate-Source Voltage

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MECHANICAL DATA



ORDER INFORMATION

PJA87P03 _R1_ 00001

Serial number
0001: Standard
 Version code
0: HF
 Packing size code
1: 13"
 Packing type
R: Tape and Reel (T/R)



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