



PJA55P03

30V P-CHANNEL ENHANCEMENT MODE MOSFET

VOLTAGE 30 Volt **CURRENT** 4.3 Ampere

SOT-23-1 Unit : inch(mm)

FEATURES

- $R_{DS(ON)}, V_{GS}@-10V, I_D@-4.3A < 48\text{ m}\Omega$
- $R_{DS(ON)}, V_{GS}@-4.5V, I_D@-3.5A < 55\text{ m}\Omega$
- Advanced Trench Process Technology
- High Density Cell Design For Ultra Low On-Resistance
- Specially Designed for DC/DC Converters
- Low Voltage Application
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-23-1 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Apprx. Weight : 0.0003 ounces, 0.0084grams
- Marking : 55

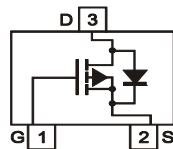
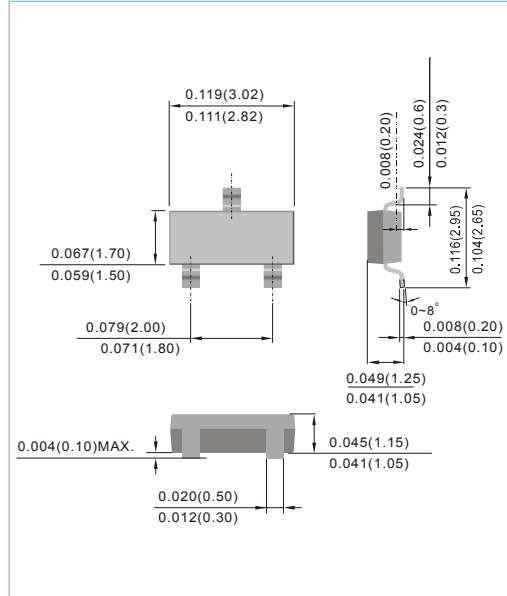


Fig.80 (TOP VIEW)



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}	± 12	V
Continuous Drain Current	Steady-State $T_A=25^\circ\text{C}$	I_D	-4.3	A
Pulsed Drain Current		I_{DM}	-20	A
Power Dissipation (Notes 1)	Steady-State $T_A=25^\circ\text{C}$	P_D	1.25	W
Typical Thermal Resistance (Notes 1)		$R_{\theta JA}$	120	$^\circ\text{C}/\text{W}$
Operating Junction Temperature and Storage Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

NOTES:

1. Mounted on 48cm² FR-4 PCB .



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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}	$V_{GS}=0V, I_D=-250\mu A$	-30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.5	-1.0	-1.7	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-4.3A$	-	40	48	m Ω
		$V_{GS}=-4.5V, I_D=-3.5A$	-	46	55	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$	-	-	-1	μA
Gate -Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Diode Forward Voltage	V_{SD}	$I_S=-1A, V_{GS}=0V$	-	-0.78	-1.5	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-15V, I_D=-3.5A$ $V_{GS}=-10V$	-	26.8	-	nC
Gate-Source Charge	Q_{gs}		-	2.53	-	
Gate-Drain Charge	Q_{gd}		-	2.96	-	
Turn-On Delay Time	td_{on}	$V_{DD}=-15V, V_{GEN}=-10V,$ $R_G=6\Omega, R_L=15\Omega,$ $I_b=-1.0A$	-	10.8	-	ns
Turn-Off Delay Time	td_{off}		-	64.8	-	
Turn-On Rise Time	t_r		-	18.8	-	
Turn-Off Fall Time	t_f		-	9.6	-	
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V$ $f=1.0MHz$	-	1330	-	pF
Output Capacitance	C_{oss}		-	105	-	
Reverse Transfer Capacitance	C_{rss}		-	88	-	



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RATING AND CHARACTERISTIC CURVES

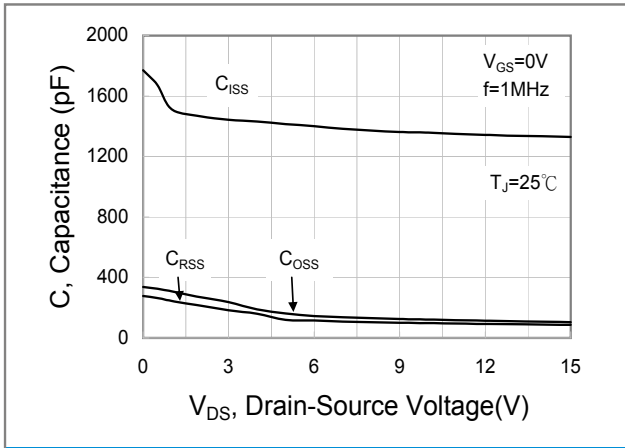


Fig.1 Capacitance Variation

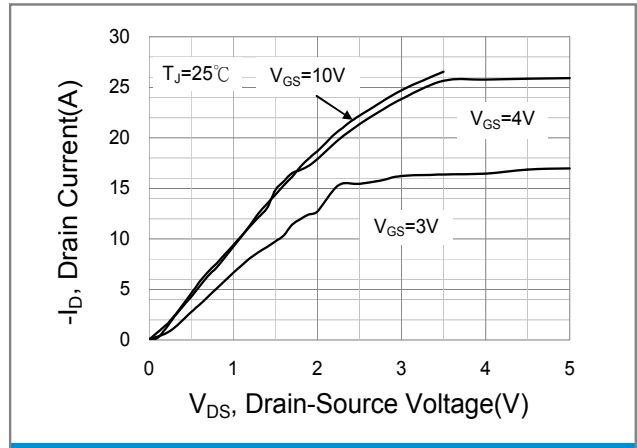


Fig.2 Drain Current VS Drain-Source Voltage

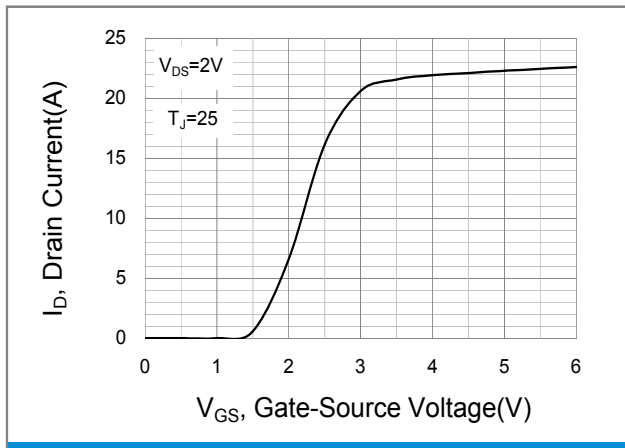


Fig.3 Drain current VS Gate Source Voltage

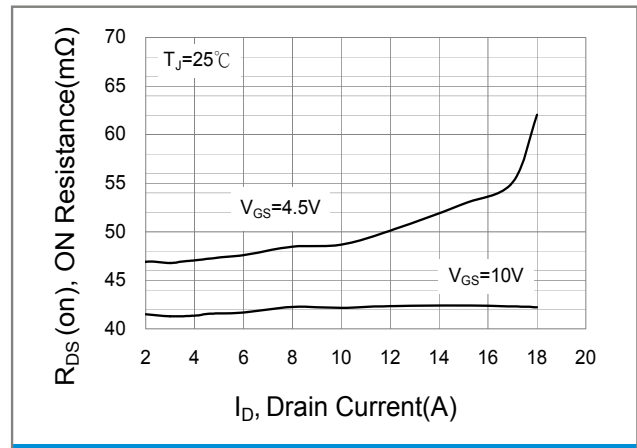


Fig.4 ON Resistance VS Drain Current

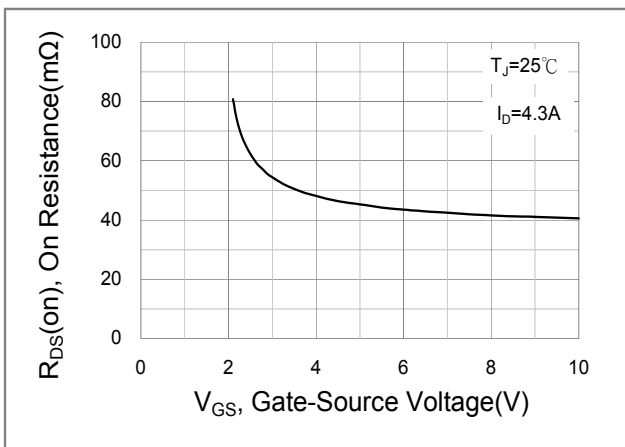


Fig.5 ON Resistance VS Gate-Source Voltage

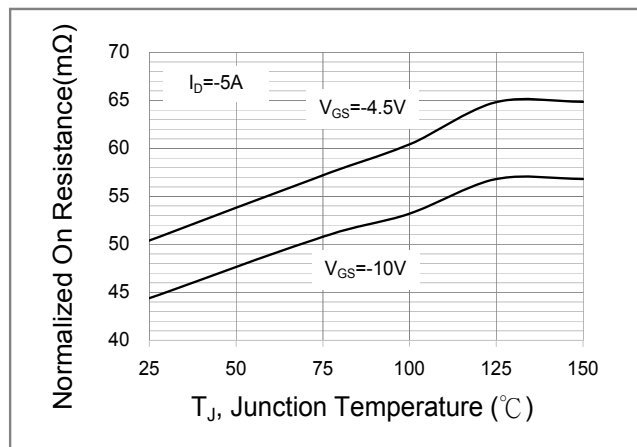


Fig.6 ON Resistance VS Junction Temperature



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RATING AND CHARACTERISTIC CURVES

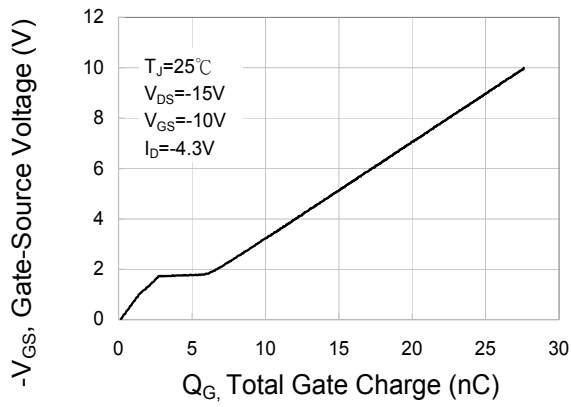


Fig.7 Gate-Charge Characteristics

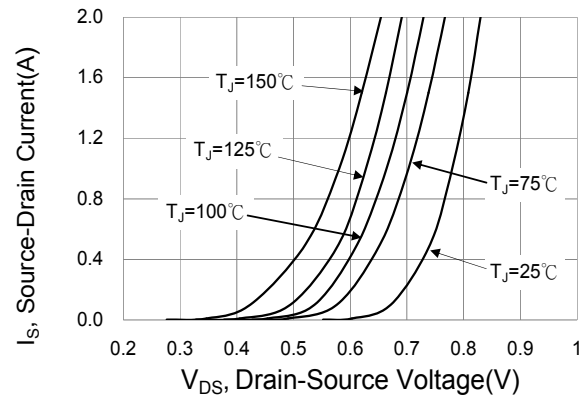
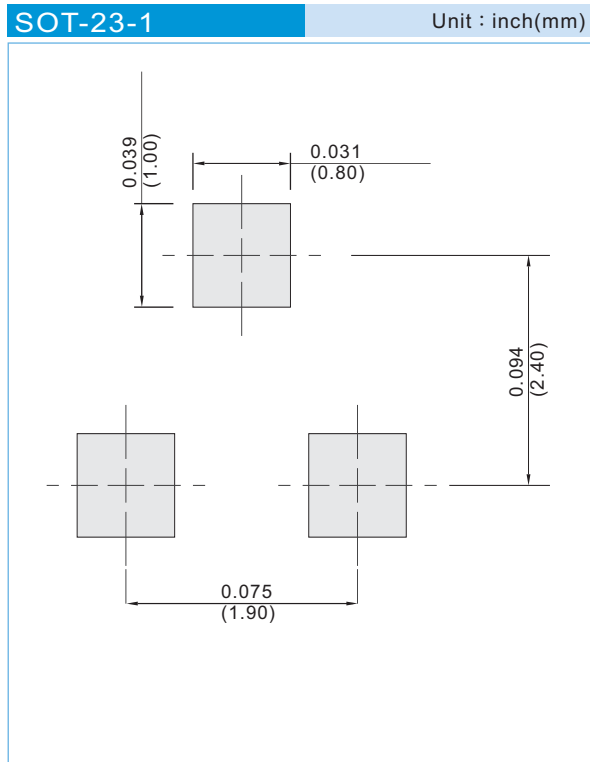


Fig.8 Source Drain Current VS Drain Source Voltage



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 12K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel



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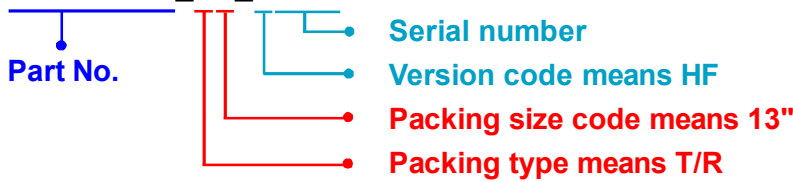
Part No_packing code_Version

PJA55P03_R1_00001

PJA55P03_R2_00001

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th 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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