

PJA55P03

30V P-CHANNEL ENHANCEMENT MODE MOSFET

VOLTAGE 30 Volts **CURRENT** 4.3 Amperes

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 comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

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

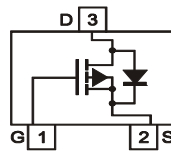
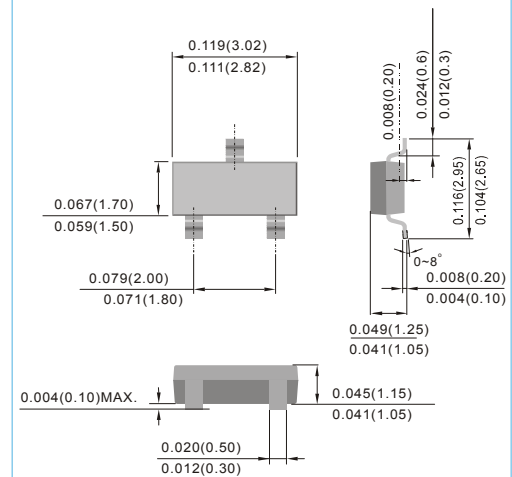


Fig.80 (TOP VIEW)



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	$^\circ\text{C/W}$
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 .

PJA55P03

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	-0.5	-1.0	-1.7	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-4.3A	-	40	48	mΩ
		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} = ±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	t _{d(on)}	V _{DD} =-15V, V _{GEN} =-10V, R _G =6Ω, R _L =15Ω, I _D =-1.0A	-	10.8	-	ns
Turn-Off Delay Time	t _{d(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	-	

PJA55P03

RATING AND CHARACTERISTIC CURVES

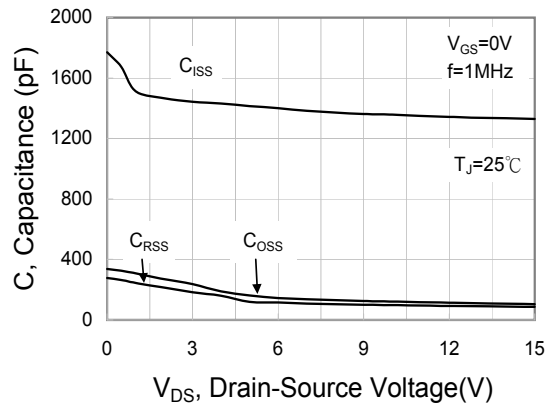


Fig.1 Capacitance Variation

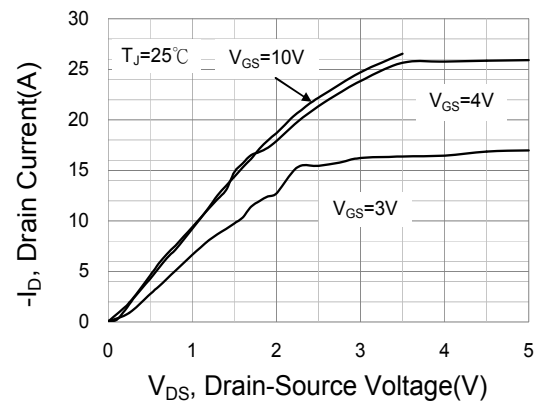


Fig.2 Drain Current VS Drain-Source Voltage

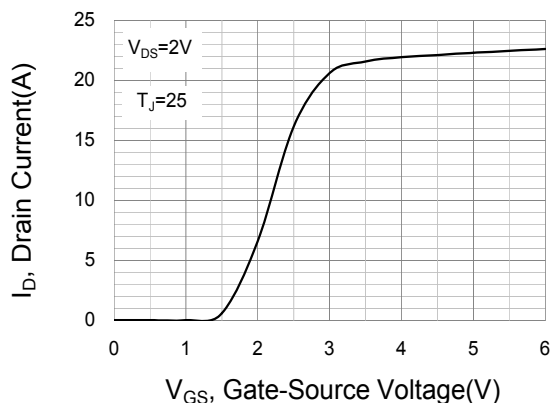


Fig.3 Drain current VS Gate Source Voltage

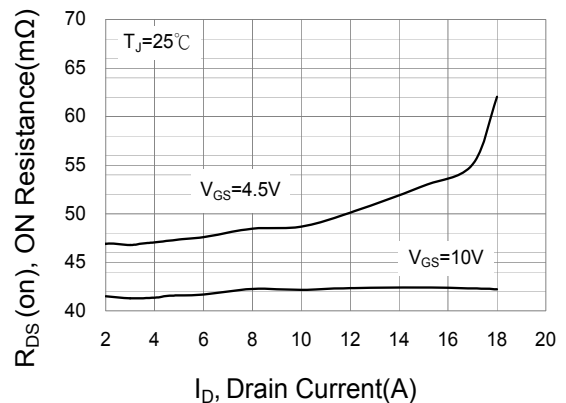


Fig.4 ON Resistance VS Drain Current

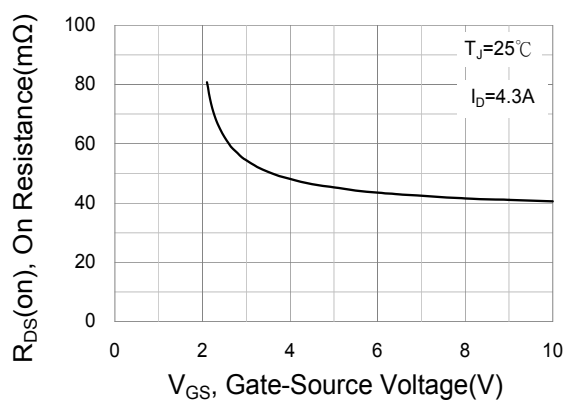


Fig.5 ON Resistance VS Gate-Source Voltage

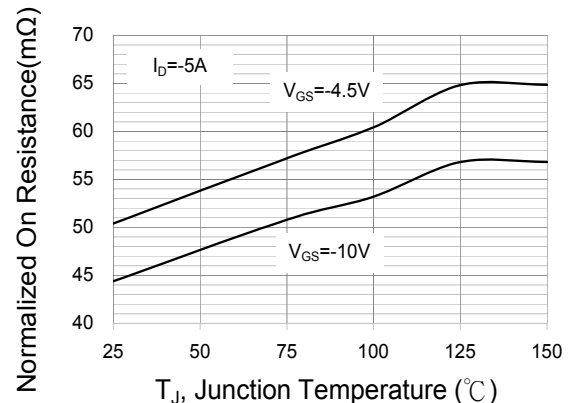


Fig.6 ON Resistance VS Junction Temperature

PJA55P03

RATING AND CHARACTERISTIC CURVES

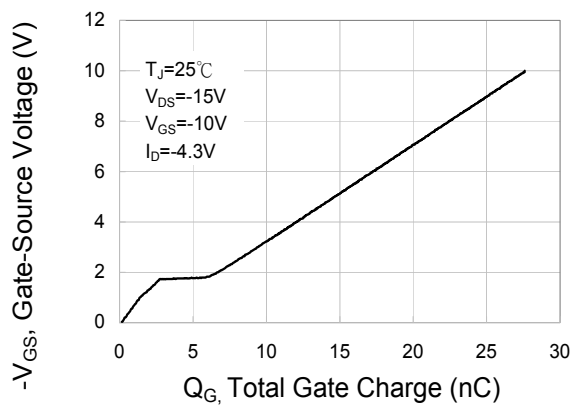


Fig.7 Gate-Charge Characteristics

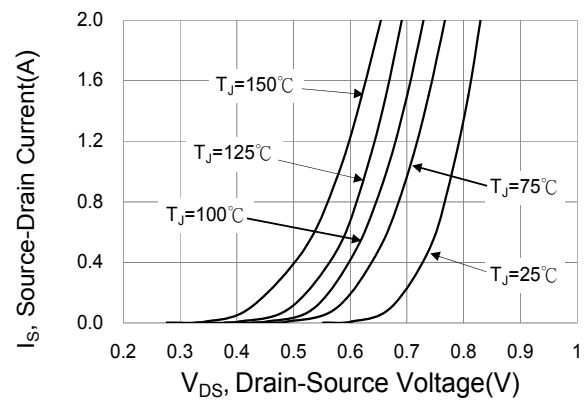
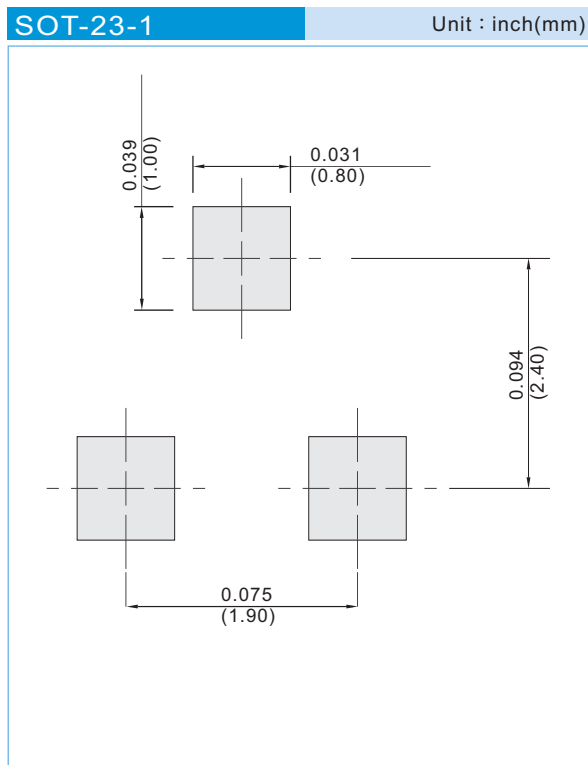


Fig.8 Source Drain Current VS Drain Source Voltage

PJA55P03

MOUNTING PAD LAYOUT



ORDER INFORMATION

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

PJA55P03

Part No_packing code_Version

PJA55P03_R1_00001

PJA55P03_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	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			



PJA55P03

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.