



PJC7403

20V P-Channel Enhancement Mode MOSFET – ESD Protected

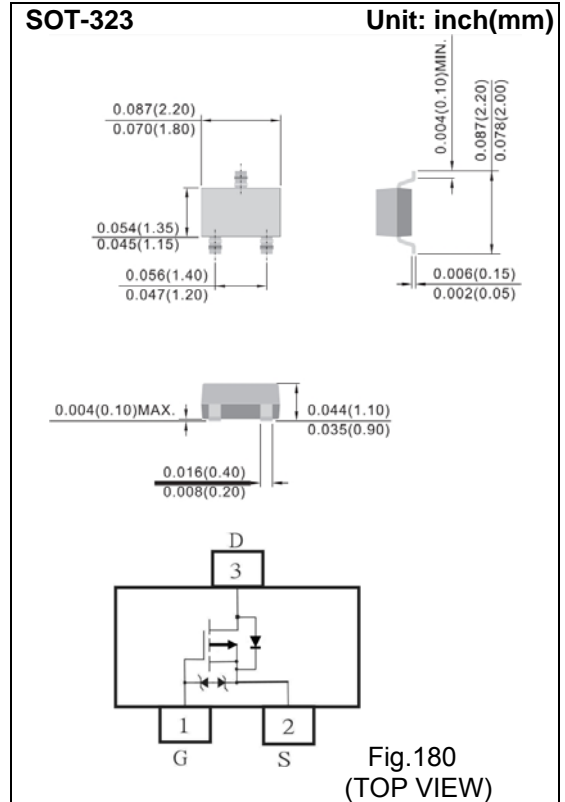
Voltage **-20 V** **Current** **-0.7A**

Features

- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-0.7A < 325m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-2.5V$, $I_D@-0.6A < 420m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-1.8V$, $I_D@-0.5A < 600m\Omega$
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc.
- ESD Protected
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std.
(Halogen Free)

Mechanical Data

- Case: SOT-323 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0002 ounces, 0.005 grams
- Marking : C03



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

PARAMETER	SYMBOL	LIMIT	UNITS	
Drain-Source Voltage	V_{DS}	-20	V	
Gate-Source Voltage	V_{GS}	± 8	V	
Continuous Drain Current	I_D	-0.7	A	
Pulsed Drain Current (Note 4)	I_{DM}	-2.8	A	
Power Dissipation	P_D	$T_a=25^\circ C$	350	mW
		Derate above $25^\circ C$	2.8	mW/ $^\circ C$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ C$	
Thermal resistance	$R_{\theta JA}$	357	$^\circ C/W$	
- Junction to Ambient (Note 3)				



PJC7403

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}	$V_{GS}=0V, I_D=-250\mu A$	-20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.5	-0.64	-1.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-0.7A$	-	260	325	m Ω
		$V_{GS}=-2.5V, I_D=-0.6A$	-	310	420	
		$V_{GS}=-1.8V, I_D=-0.5A$	-	400	600	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$	-	-0.01	-1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$	-	± 3.5	± 10	μA
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-10V, I_D=-0.7A,$ $V_{GS}=-4.5V$ (Note 1,2)	-	2.2	-	nC
Gate-Source Charge	Q_{gs}		-	0.4	-	
Gate-Drain Charge	Q_{gd}		-	0.5	-	
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V,$ $f=1.0\text{MHZ}$	-	165	-	pF
Output Capacitance	C_{oss}		-	25	-	
Reverse Transfer Capacitance	C_{rss}		-	14.7	-	
Switching						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-10V, I_D=-0.7A,$ $V_{GS}=-4.5V,$ $R_G=6\Omega$ (Note 1,2)	-	8.9	-	ns
Turn-On Rise Time	t_r		-	37	-	
Turn-Off Delay Time	$t_{d(off)}$		-	127	-	
Turn-Off Fall Time	t_f		-	70	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	-1	A
Diode Forward Voltage	V_{SD}	$I_S=-1A, V_{GS}=0V$		-0.97	-1.2	V

NOTES:

1. Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$
2. Essentially independent of operating temperature typical characteristics.
3. $R_{\theta JA}$ 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 FR-4 with 2oz. square pad of copper.
4. The maximum current rating is package limited.



PJC7403

TYPICAL CHARACTERISTIC CURVES

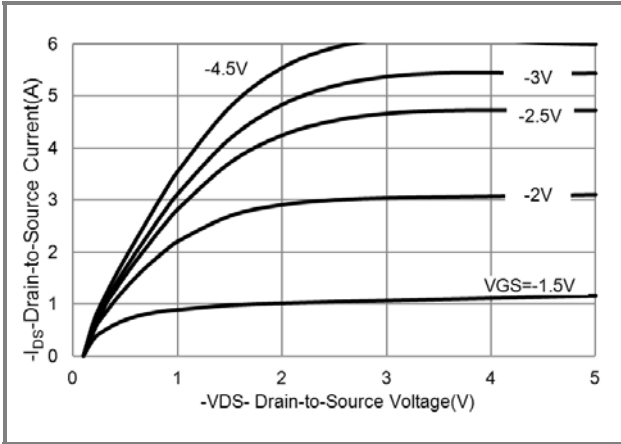


Fig.1 On-Region Characteristics

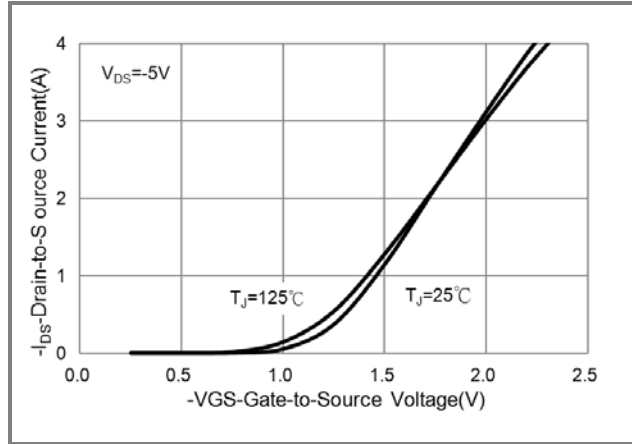


Fig.2 Transfer Characteristics

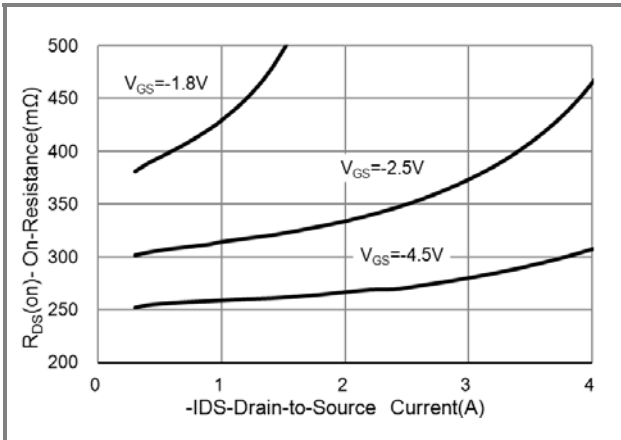


Fig.3 On-Resistance vs. Drain Current

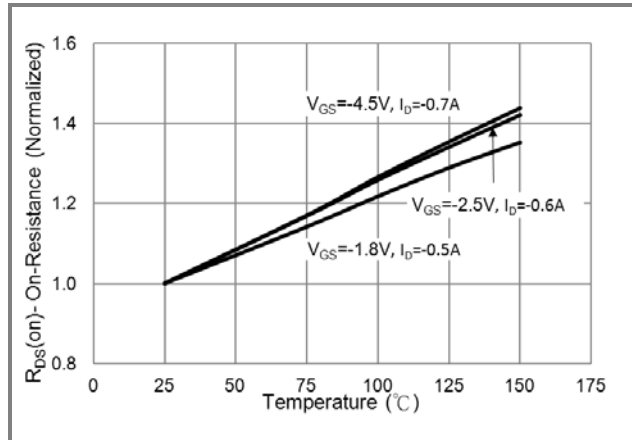


Fig.4 On-Resistance vs. Junction temperature

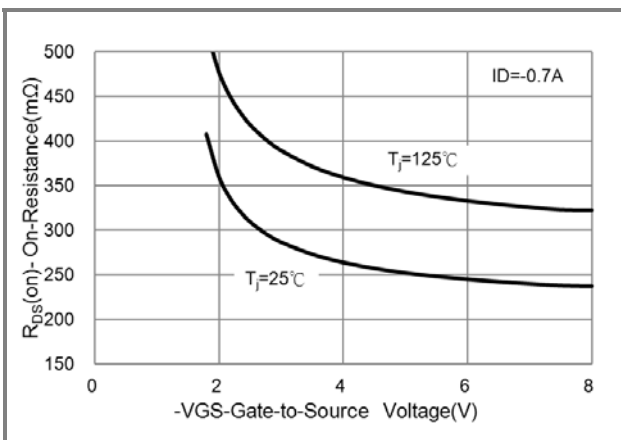


Fig.5 On-Resistance Variation with VGS.

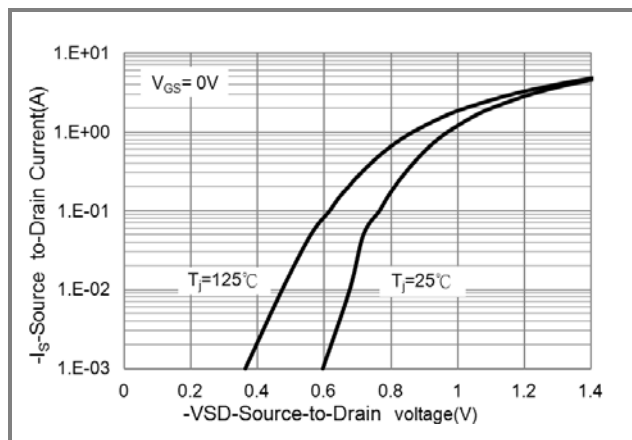


Fig.6 Body Diode Characteristics



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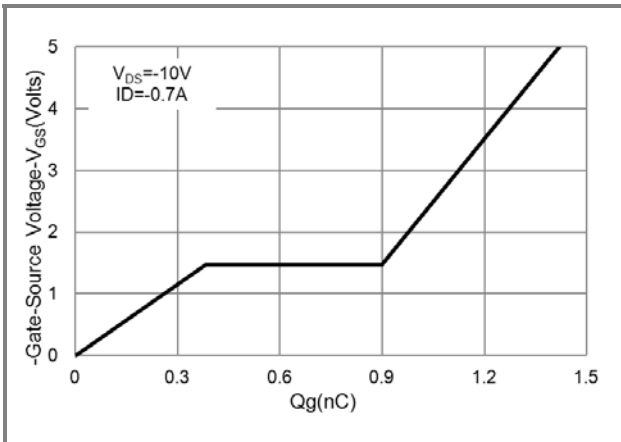


Fig.7 Gate-Charge Characteristics

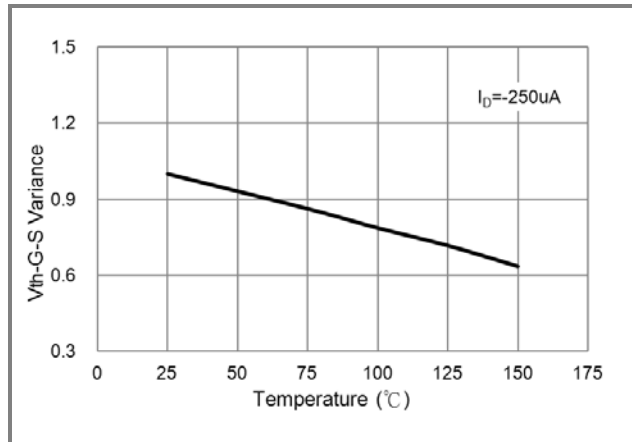


Fig.8 Threshold Voltage Variation with Temperature.

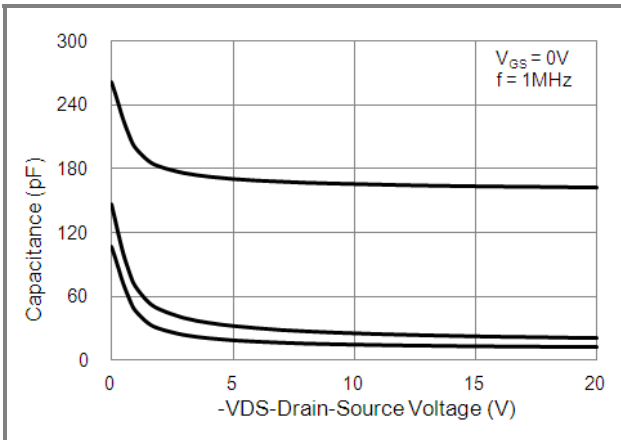


Fig.9 Threshold Voltage Variation with Temperature.

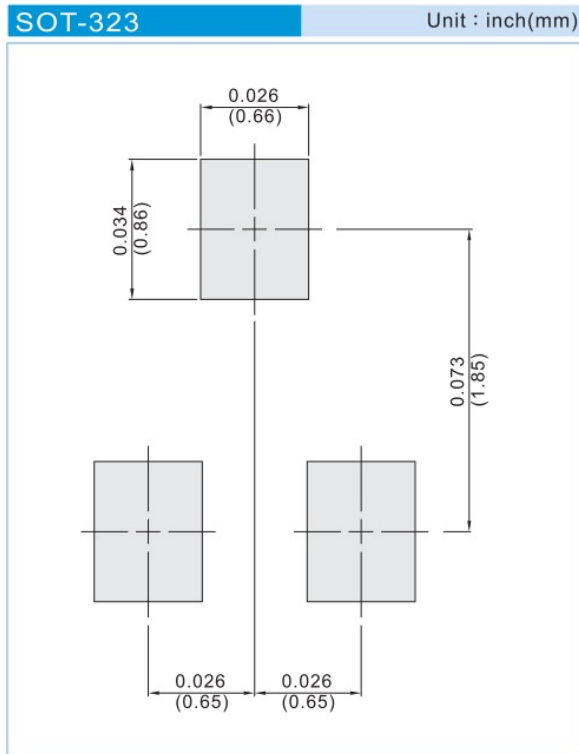


PJC7403

PART NO PACKING CODE VERSION

PART NO PACKING CODE VERSION	Package Type	Packing type	Marking	Version
PJC7403_R1_00001	SOT-323	3K pcs / 7" reel	C03	Halogen free
PJC7403_R2_00001	SOT-323	12K pcs / 13" reel	C03	Halogen free

ORDER INFORMATION





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