

PJC7407

20V P-Channel Enhancement Mode MOSFET

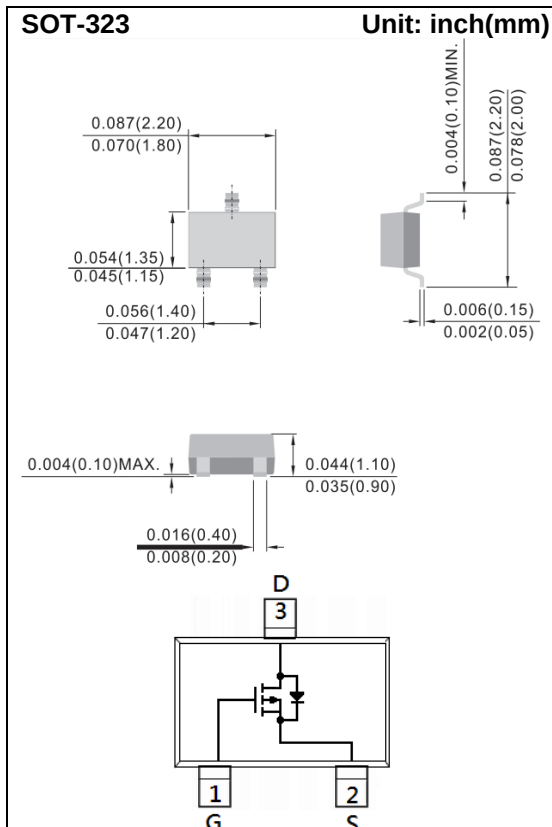
Voltage	-20 V	Current	-1.3A
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Features

- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-1.3A < 125m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-2.5V$, $I_D@-1.0A < 150m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-1.8V$, $I_D@-0.5A < 200m\Omega$
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc.
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- 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 : C07



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}	±12	V
Continuous Drain Current		I _D	-1.3	A
Pulsed Drain Current (Note 4)		I _{DM}	-5.2	A
Power Dissipation	T _a =25°C	P _D	350	mW
	Derate above 25°C		2.8	mW/°C
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55~150	°C
Typical Thermal resistance		R _{θJA}	357	°C/W
- Junction to Ambient (Note 3)				



PJC7407

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	-20	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-0.4	-0.69	-1.2	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-1.3A	-	101	125	mΩ
		V _{GS} =-2.5V, I _D =-1.0A	-	120	150	
		V _{GS} =-1.8V, I _D =-0.5A	-	139	200	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V	-	-0.01	-1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	-	±10	±100	nA
Dynamic						
Total Gate Charge	Q _g	V _{DS} =-10V, I _D =-1.3A, V _{GS} =-4.5V (Note 1,2)	-	5.4	-	nC
Gate-Source Charge	Q _{gs}		-	0.7	-	
Gate-Drain Charge	Q _{gd}		-	1.4	-	
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f=1.0MHZ	-	416	-	pF
Output Capacitance	C _{oss}		-	43	-	
Reverse Transfer Capacitance	C _{rss}		-	32	-	
Switching						
Turn-On Delay Time	td _(on)	V _{DD} =-10V, I _D =-1.3A, V _{GS} =-4.5V, R _G =6Ω (Note 1,2)	-	3.9	-	ns
Turn-On Rise Time	tr			27	-	
Turn-Off Delay Time	td _(off)			78	-	
Turn-Off Fall Time	tf			45	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S	---	-	-	-0.5	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V		-0.8	-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.

PJC7407

TYPICAL CHARACTERISTIC CURVES

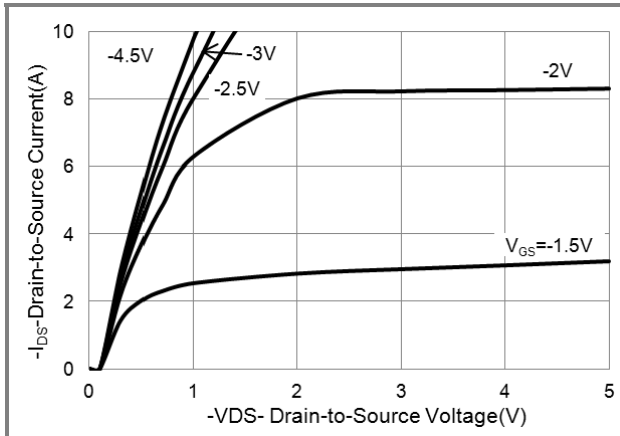


Fig.1 On-Region Characteristics

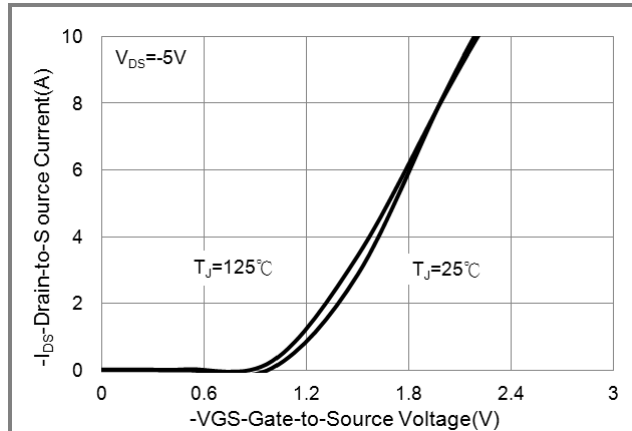


Fig.2 Transfer Characteristics

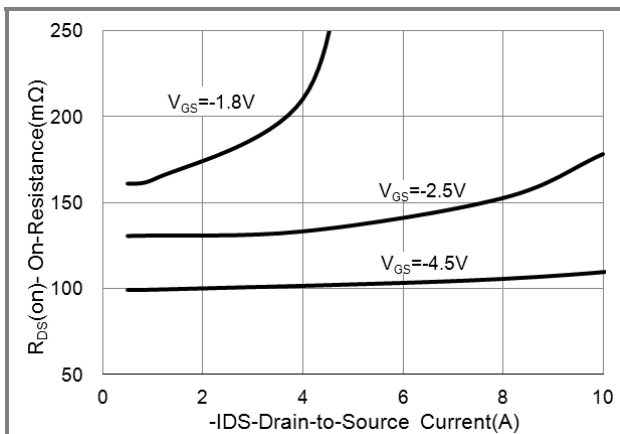


Fig.3 On-Resistance vs. Drain Current

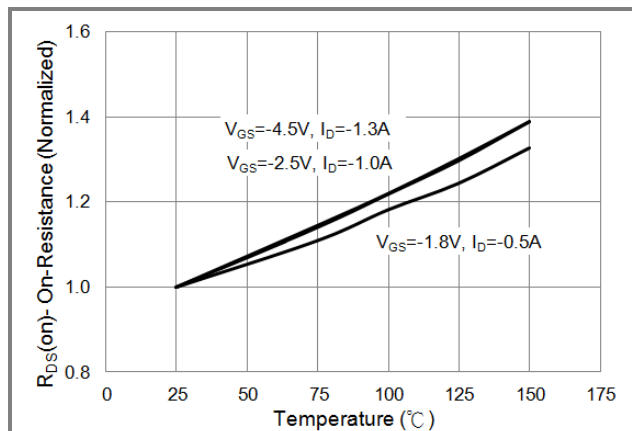


Fig.4 On-Resistance vs. Junction temperature

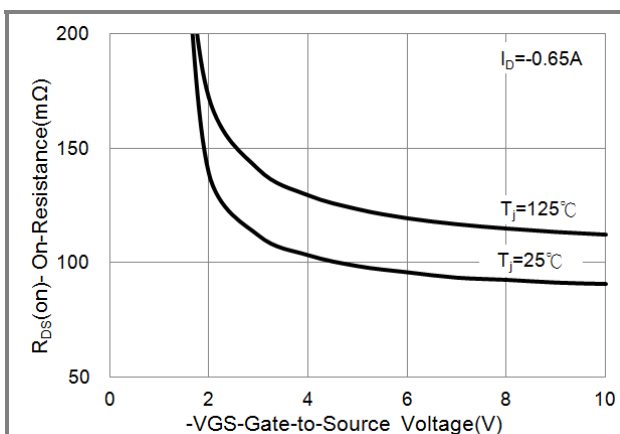


Fig.5 On-Resistance Variation with VGS.

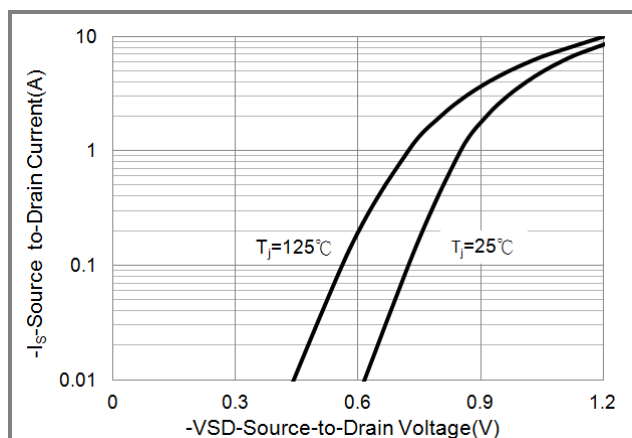


Fig.6 Body Diode Characteristics

PJC7407

TYPICAL CHARACTERISTIC CURVES

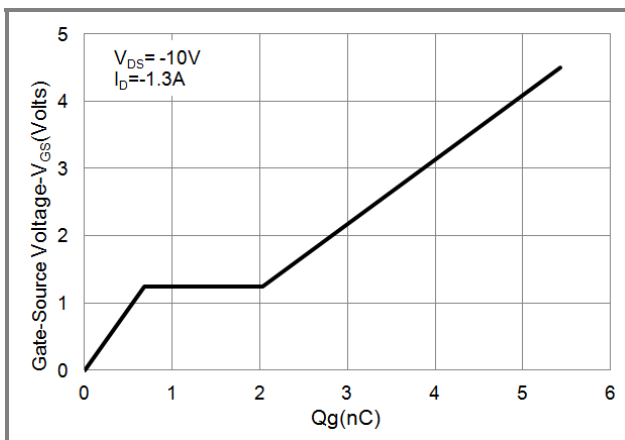


Fig.7 Gate-Charge Characteristics

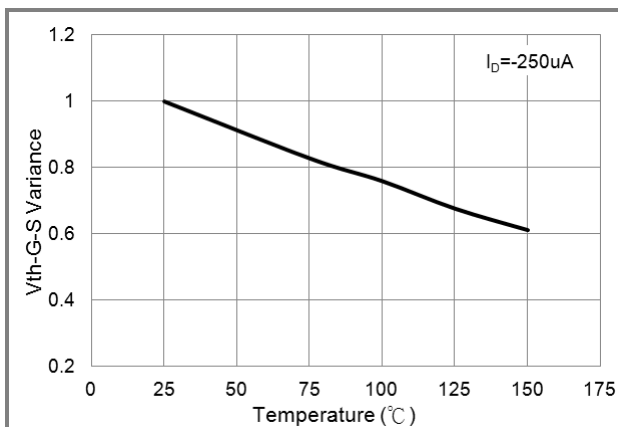


Fig.8 Threshold Voltage Variation with Temperature.

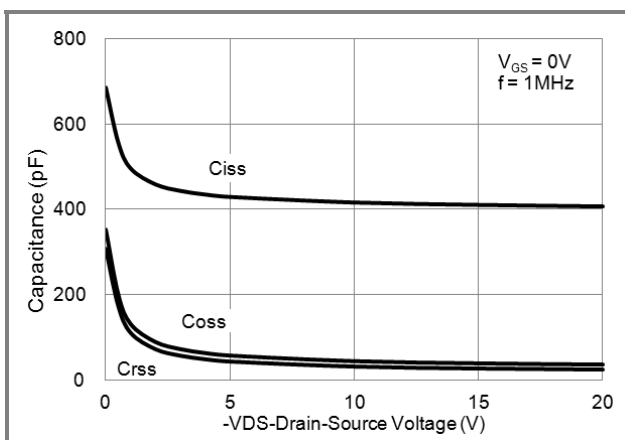


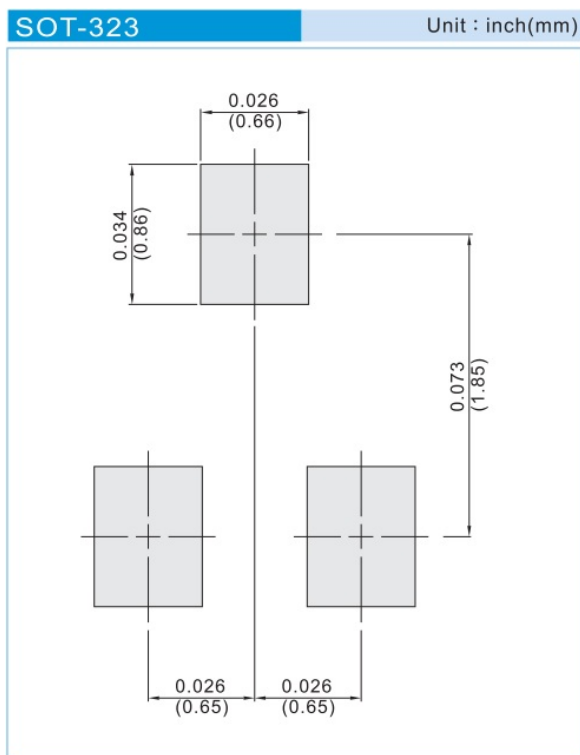
Fig.9 Threshold Voltage Variation with Temperature.

PJC7407

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJC7407_R1_00001	SOT-323	3K pcs / 7" reel	C07	Halogen free
PJC7407_R2_00001	SOT-323	12K pcs / 13" reel	C07	Halogen free

ORDER INFORMATION





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