

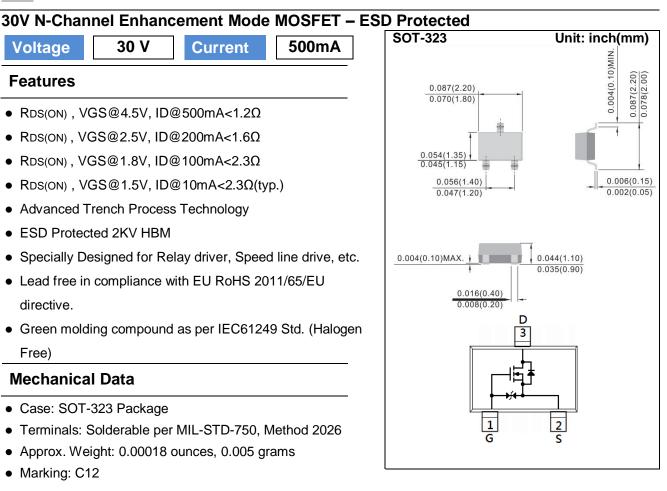
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PJC7412



Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V _{DS}	30	V
Gate-Source Voltage		V _{GS}	<u>+</u> 10	V
Continuous Drain Current		I _D	500	mA
Pulsed Drain Current (Note 4)		I _{DM}	1500	mA
Power Dissipation	T _A =25°C		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 - Junction to Ambient ^(Note 3)		R _{θJA}	357	°C/W



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)}	$V_{DS}=V_{GS}$, $I_{D}=250$ uA	0.6	0.85	1.1	V
	R _{DS(on)}	V_{GS} =4.5V, I_{D} =500mA	-	0.87	1.2	- Ω
		V _{GS} =2.5V, I _D =200mA	-	1.25	1.6	
Drain-Source On-State Resistance		V _{GS} =1.8V, I _D =100mA	-	1.6	2.3	
		V _{GS} =1.5V, I _D =10mA	-	2.3	-	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V	-	0.01	1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = <u>+</u> 8V, V _{DS} =0V	-	-	<u>+</u> 10	
		V _{GS} = <u>+</u> 5V, V _{DS} =0V	-	-	<u>+</u> 1	
Dynamic (Note 5)						
Total Gate Charge	Qg	V_{DS} =15V, I _D =500mA, V _{GS} =4.5V ^(Note 1,2)	-	0.87	-	nC
Gate-Source Charge	Q _{gs}		-	0.26	-	
Gate-Drain Charge	Q_gd		-	0.16	-	
Input Capacitance	Ciss	V _{DS} =15V, V _{GS} =0V, f=1.0MHZ	-	34	-	pF
Output Capacitance	Coss		-	8.9	-	
Reverse Transfer Capacitance	Crss		-	2.5	-	
Turn-On Delay Time	td _(on)	V_{DD} =15V, I _D =80mA, V_{GS} =4.0V, R_{G} =6 $\Omega^{(Note 1,2)}$	-	7.1	-	- ns
Turn-On Rise Time	tr		-	20	-	
Turn-Off Delay Time	td _(off)		-	41	-	
Turn-Off Fall Time	tf		-	31	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S		-	-	500	mA
Diode Forward Voltage	V _{SD}	I _s =500mA, V _{GS} =0V		0.88	1.3	V

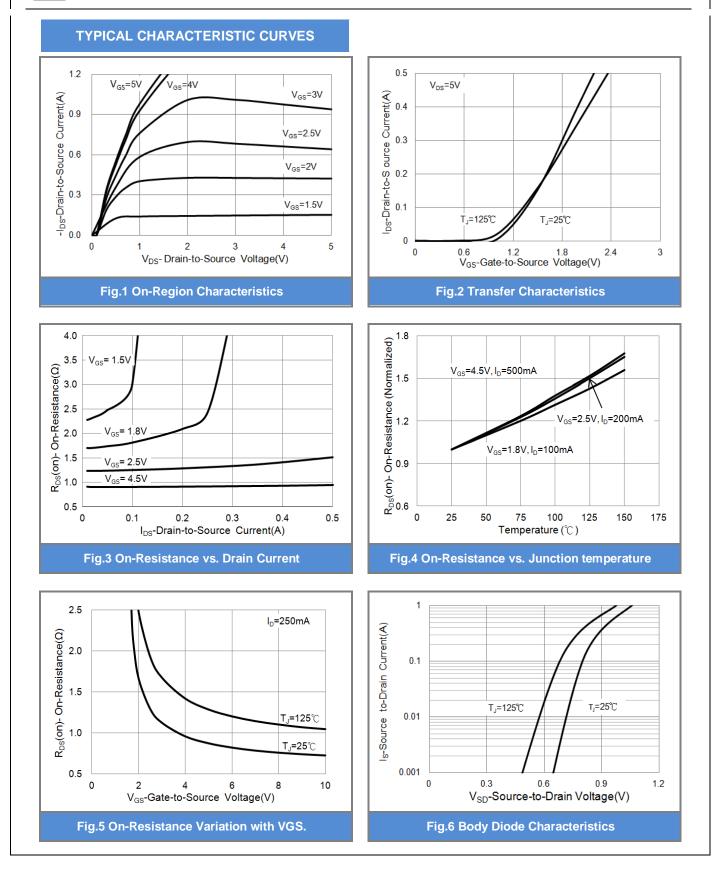
Electrical Characteristics ($T_A=25^{\circ}C$ unless otherwise noted)

NOTES :

1. Pulse width <300us, Duty cycle <2%

- 2. Essentially independent of operating temperature typical characteristics.
- 3. R_{0JA} 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.
- 5. Guaranteed by design, not subject to production testing.







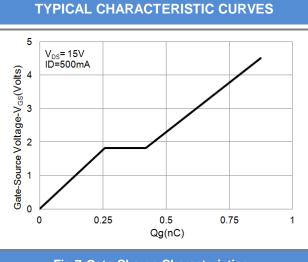


Fig.7 Gate-Charge Characteristics

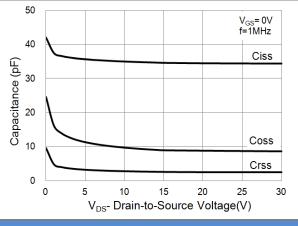
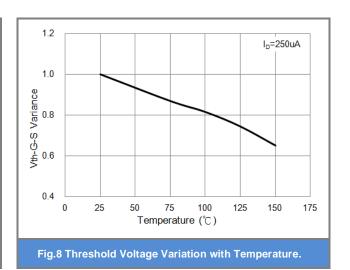


Fig.9 Capacitance vs. Drain-Source Voltage.

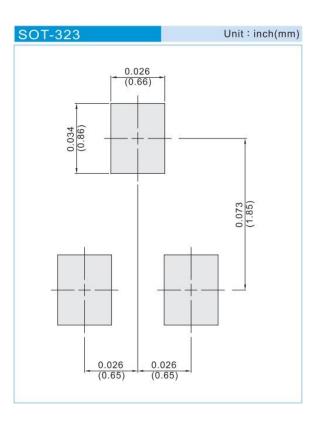




PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJC7412_R1_00001	SOT-323	3K pcs / 7" reel	C12	Halogen free
PJC7412_R2_00001	SOT-323	12K pcs / 13" reel	C12	Halogen free

MOUNTING PAD LAYOUT





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