



PJV1702

20V N-Channel MOSFET

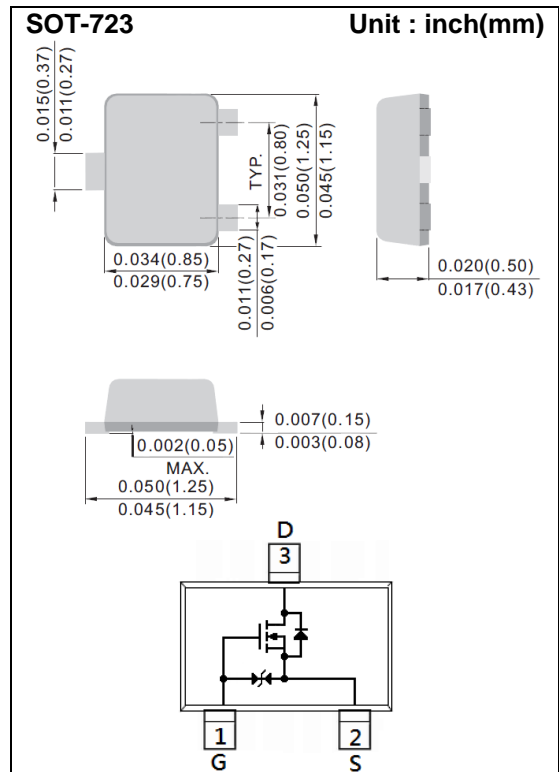
Voltage 20 V **Current** 0.65 A

Features

- Switching with Low RDS(ON)
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. (Halogen Free)

Mechanical Data

- Case: SOT-723 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00005 ounce, 0.0013 gram
- Marking: KF



Maximum Ratings and Thermal Characteristics ($T_A=25^\circ\text{C}$ 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	0.65	A	
Pulsed Drain Current	I_{DM}	1.3	A	
Power Dissipation	P_D	$T_a=25^\circ\text{C}$	150	mW
		Derate above 25°C	1.2	mW/ $^\circ\text{C}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$	
Typical Thermal resistance	$R_{\theta JA}$	833	$^\circ\text{C}/\text{W}$	
- Junction to Ambient (Note 1)				



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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static (Note 2)						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.35	0.72	1.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=0.65A$	-	0.15	0.38	Ω
		$V_{GS}=2.5V, I_D=0.55A$	-	0.21	0.45	
		$V_{GS}=1.8V, I_D=0.45A$	-	0.31	0.80	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	-	0.01	1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	± 4	± 50	μA
Forward Transconductance	g_{FS}	$V_{DS}=10V, I_D=0.65A$	-	1.9	-	S
Diode Forward Voltage	V_{SD}	$I_S=0.15A, V_{GS}=0V$	-	0.63	1.2	V
Dynamic (Note 3)						
Input Capacitance	C_{iss}	$V_{DS}=16V, V_{GS}=0V,$ $f=1.0MHz$	-	62	-	μF
Output Capacitance	C_{oss}		-	24	-	
Reverse Transfer Capacitance	C_{rss}		-	12	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V, I_D=500mA,$ $V_{GS}=4.5V,$ $R_G=10\Omega$ (Note 1,2)	-	3	-	ns
Turn-On Rise Time	t_r		-	23	-	
Turn-Off Delay Time	$t_{d(off)}$		-	12	-	
Turn-Off Fall Time	t_f		-	19	-	

NOTES :

1. $R_{\theta JA}$ is surface mounted on a 1 inch FR-4 with 2oz. square pad of copper
2. Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$
3. Guaranteed by design, not subject to production testing.



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TYPICAL CHARACTERISTIC CURVES

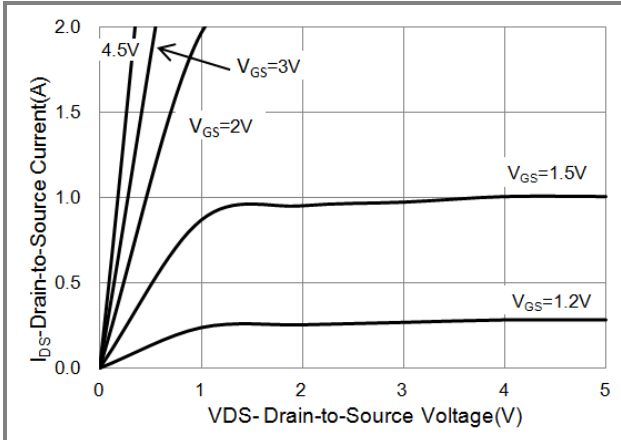


Fig.1 Output Characteristics

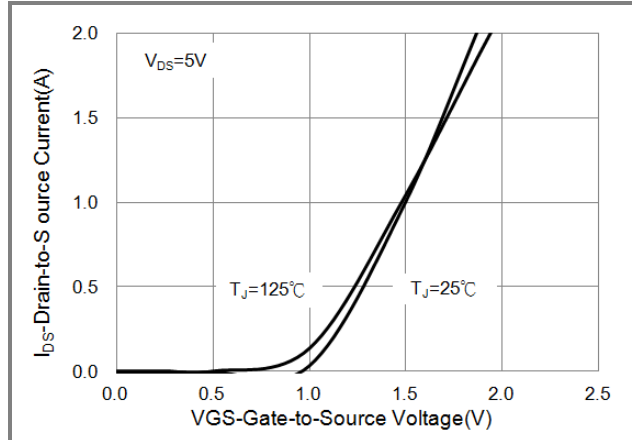


Fig.2 Transfer Characteristics

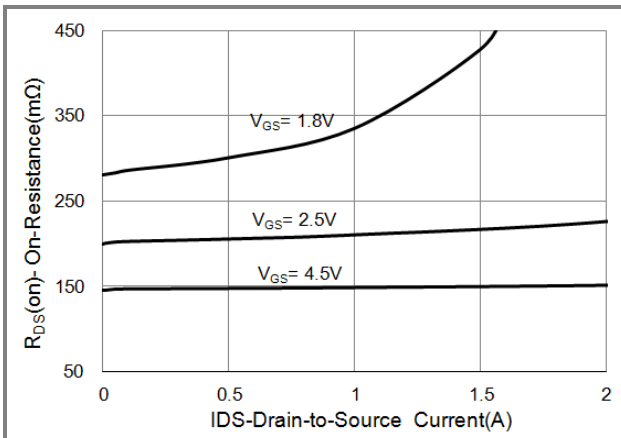


Fig.3 On-Resistance vs. Drain Current

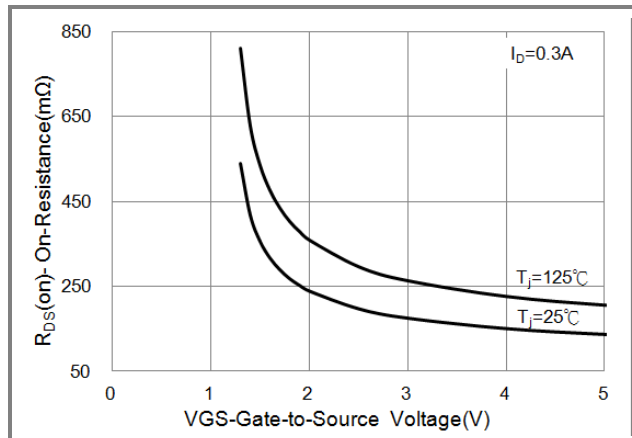


Fig.4 On-Resistance Variation with V_{GS} .

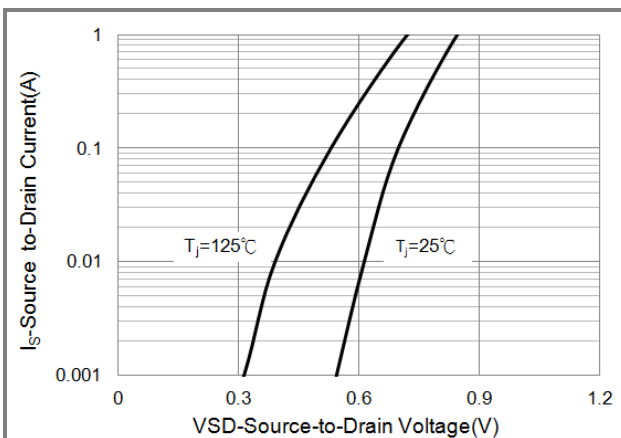


Fig.5 Body Diode Characteristics

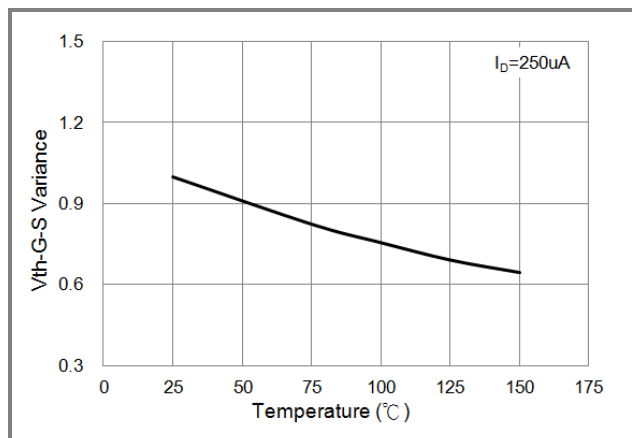


Fig.6 Threshold Voltage

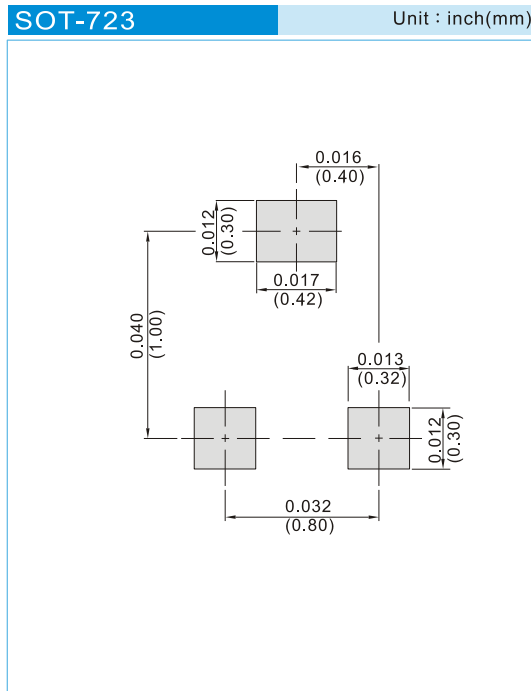


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PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PJV1702_R1_00001	SOT-723	8K pcs / 7" reel	KF	Halogen free

MOUNTING PAD LAYOUT





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