

DP2121KM

DP2121KM P-Channel Enhancement Mode Field Effect Transistor

General description

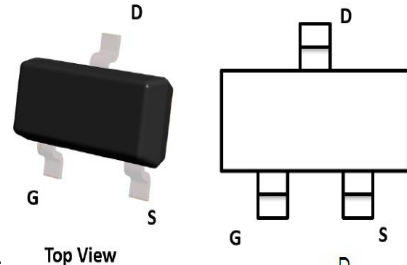
P-Channel Enhancement Mode Field Effect Transistor

Features:

- $V_{DS} = -20V$
- $I_D = -0.45 A$
- Switching Low $R_{ds(on)}$
- Lead free in compliance with EU RoHs 2011/65/EU Directive.
- Gree molding compound as per IEC61249 Std.

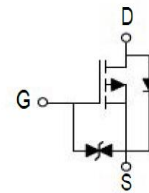
Mechanical Data

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



Top View

SOT-723



Device Marking Code:

Device Type	Device Marking
DP2121KM	KD

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	-20	V
Gate-source Voltage	V_{GS}	±12	V
Drain Current	I_D	-0.45	A
Pulsed Drain Current ^A	I_{DM}	-0.9	A
Total Power Dissipation @ $T_A=25^\circ C$	P_D	0.15	W
Thermal Resistance Junction-to-Ambient @ Steady State	$R_{\theta JA}$	833	°C/ W
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	°C

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Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±12V, V _{DS} =0V			±20	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	-0.35	-0.77	-1.1	V
Static Drain-Source On-Resistance	R _{DSON}	V _{GS} =-4.5V, I _D =-0.45A		0.40	0.52	Ω
		V _{GS} =-2.5V, I _D =-0.35A		0.55	0.70	
		V _{GS} =-1.8V, I _D =-0.25A		0.80	0.95	
Diode Forward Voltage ^C	V _{SD}	I _S =150mA, V _{GS} =0V		-0.85	-1.2	V
Dynamic Parameters ^B						
Input Capacitance	C _{ISS}	V _{DS} =-16V, V _{GS} =0V, f=1MHZ		115		pF
Output Capacitance	C _{OSS}			15		
Reverse Transfer Capacitance	C _{rss}			9		
Switching Parameters ^B						
Turn-on Delay Time	t _{D(on)}	V _{GS} =-4.5V, V _{DD} =-10V, R _G =10Ω, I _D =0.2A		9.2		ns
Turn-on Rise Time	t _r			6		
Turn-off Delay Time	t _{D(off)}			33		
Turn-off Fall Time	t _f			21		

Notes:

- A. Repetitive Rating: Pulse width limited by maximum junction temperature.
 B. These parameters Guaranteed by design.
 C. Pulse Test: Pulse Width ≤ 300us, Duty Cycle ≤ 2%.

Typical Performance Characteristics

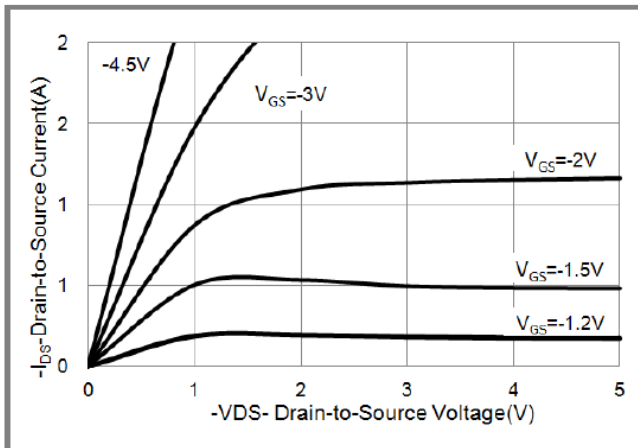


Fig.1 Output Characteristics

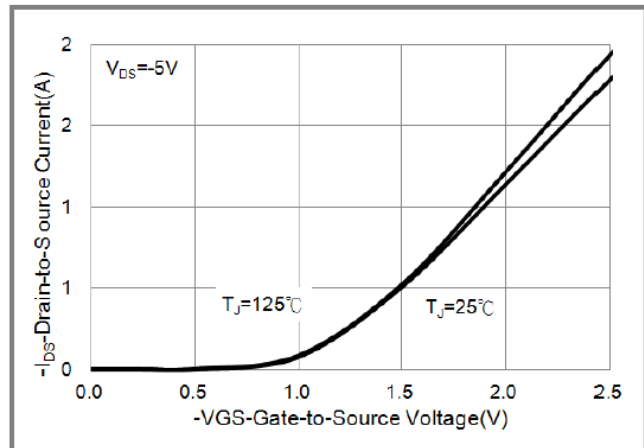


Fig.2 Transfer Characteristics

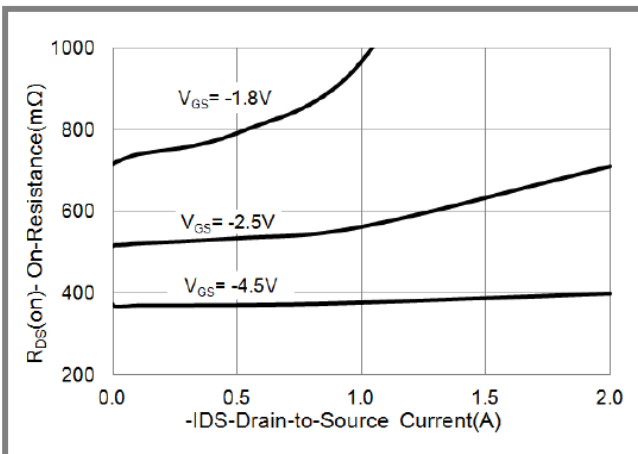


Fig.3 On-Resistance vs. Drain Current

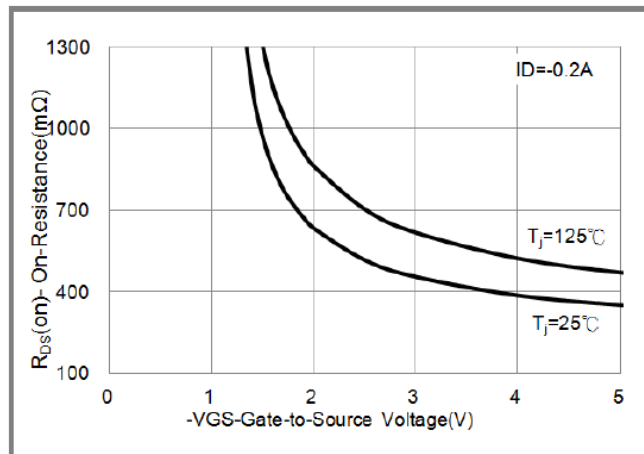


Fig.4 On-Resistance Variation with V_{GS} .

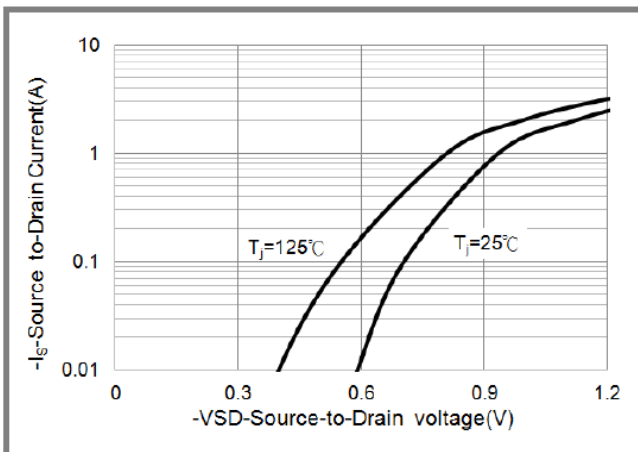


Fig.5 Body Diode Characteristics

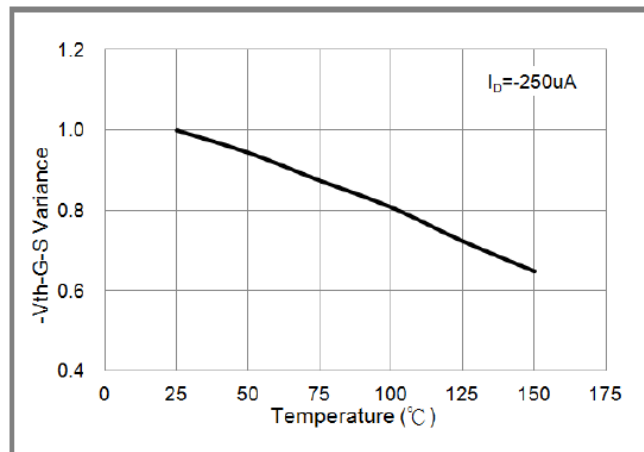
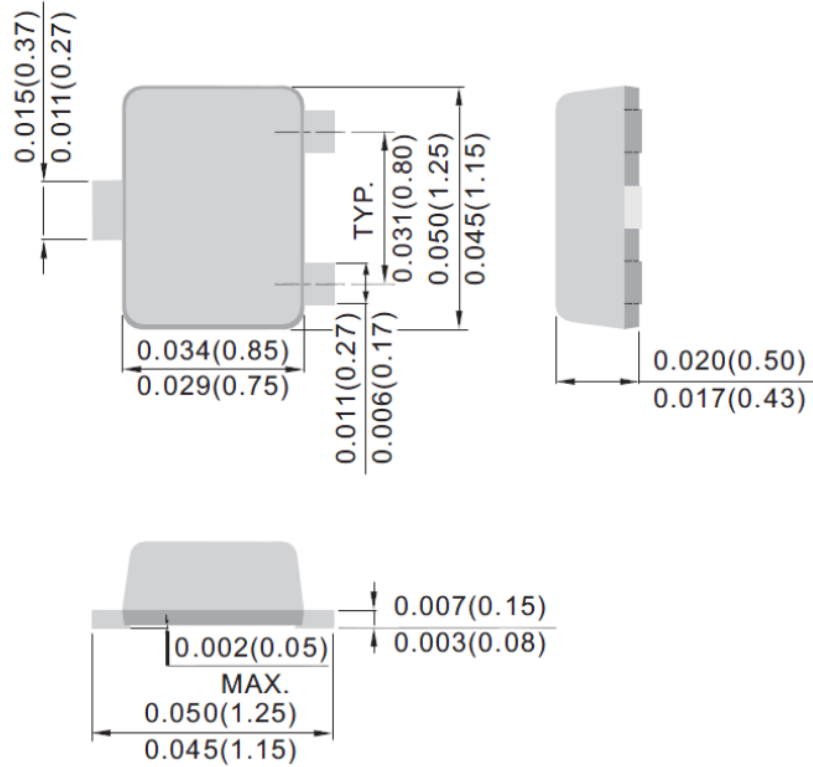


Fig.6 Threshold Voltage

SOT-723 Package information

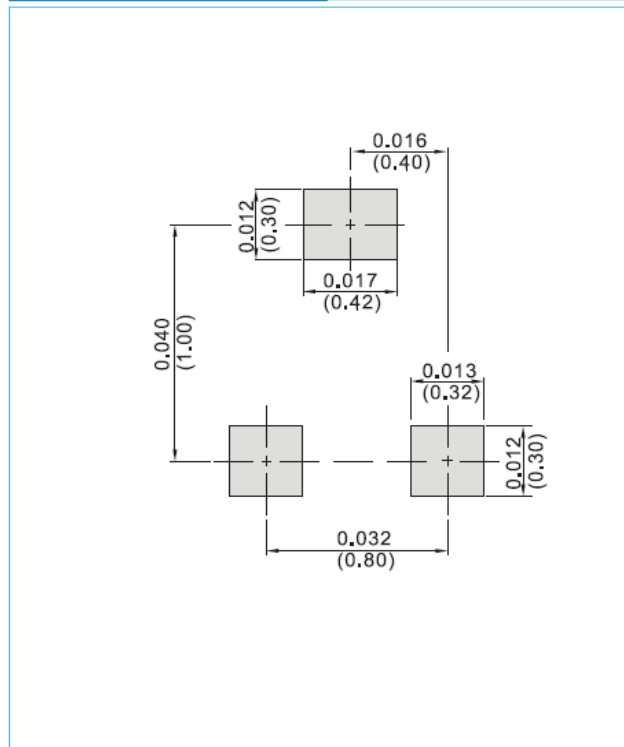
SOT-723

Unit : inch(mm)



SOT-723

Unit : inch(mm)



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