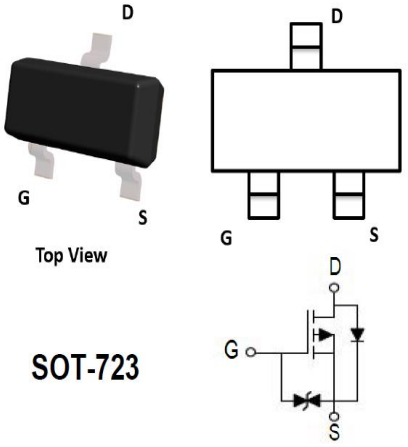
DP2121KM
P-Channel Enhancement Mode Field Effect Transistor

General description
P-Channel Enhancement Mode Field Effect Transistor

Features:
- V_{DS} = -20V
- I_D -0.45 A
- Switching Low Rds(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



Device Marking Code:

Device Type	Device Marking
DP2121KM	KD

Absolute Maximum Ratings (TA=25℃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℃	P_D	0.15	W
Thermal Resistance Junction-to-Ambient @ Steady State	$R_{\theta JA}$	833	℃/ W
Junction and Storage Temperature Range	T_J ,T_{STG}	-55～+150	℃

Electrical Characteristics (T_J=25℃ 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	$R_{DS(ON)}$	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	tr			6		
Turn-off Delay Time	$t_{D(off)}$			33		
Turn-off Fall Time	tf			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

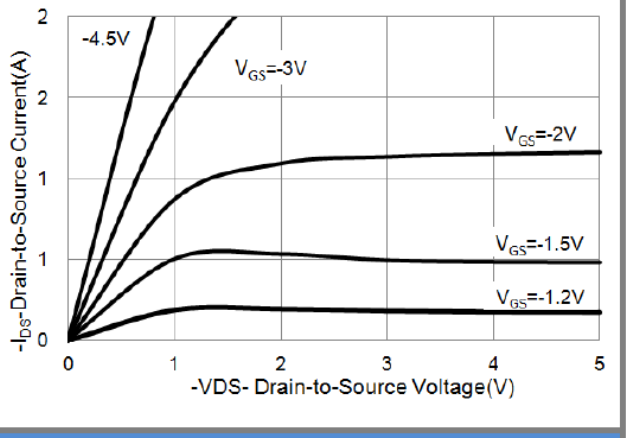


Fig.1 Output Characteristics

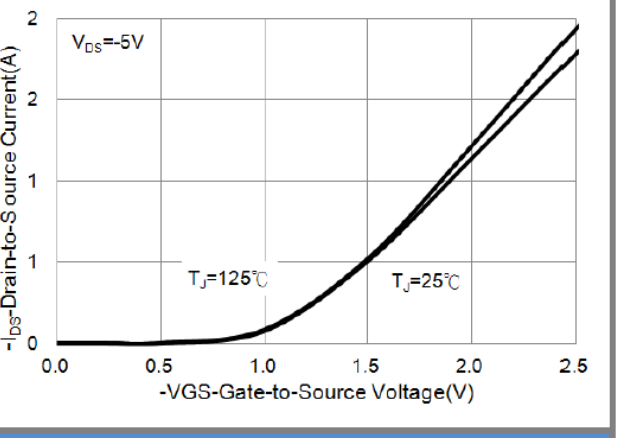


Fig.2 Transfer Characteristics

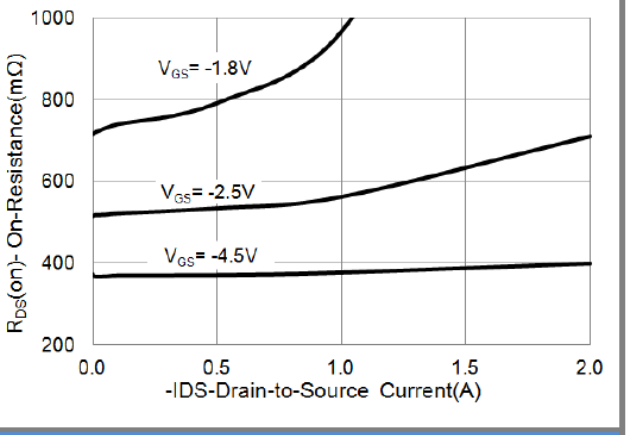


Fig.3 On-Resistance vs. Drain Current

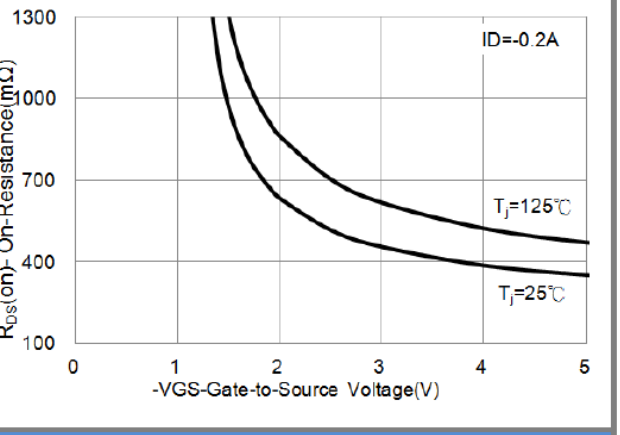


Fig.4 On-Resistance Variation with VGS.

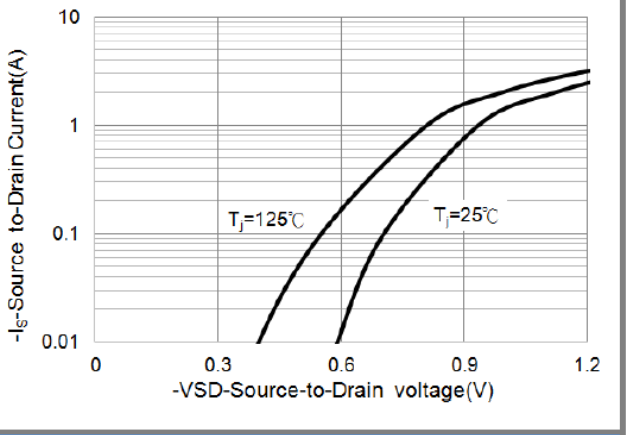


Fig.5 Body Diode Characteristics

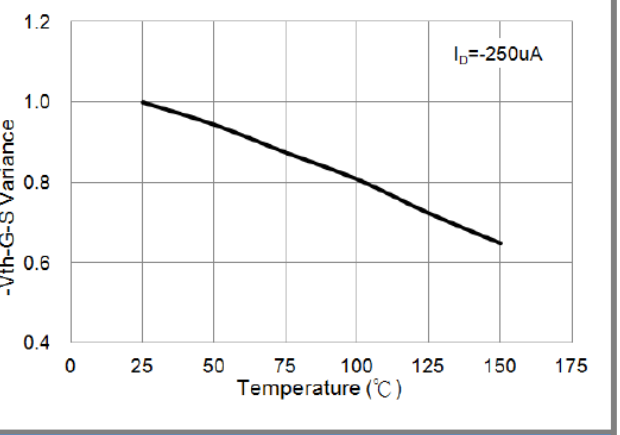
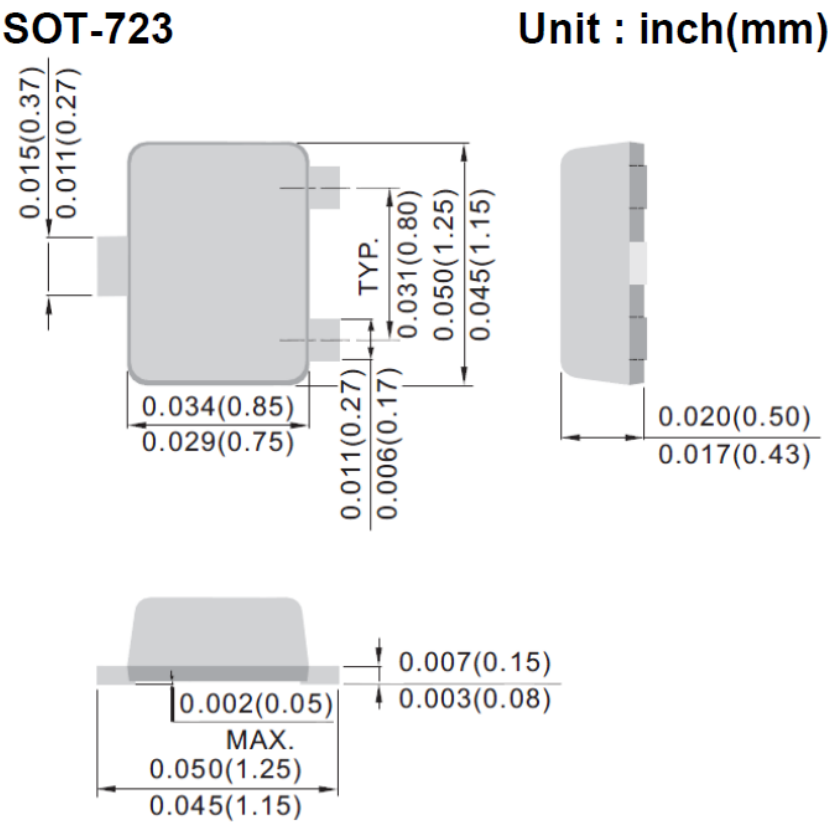
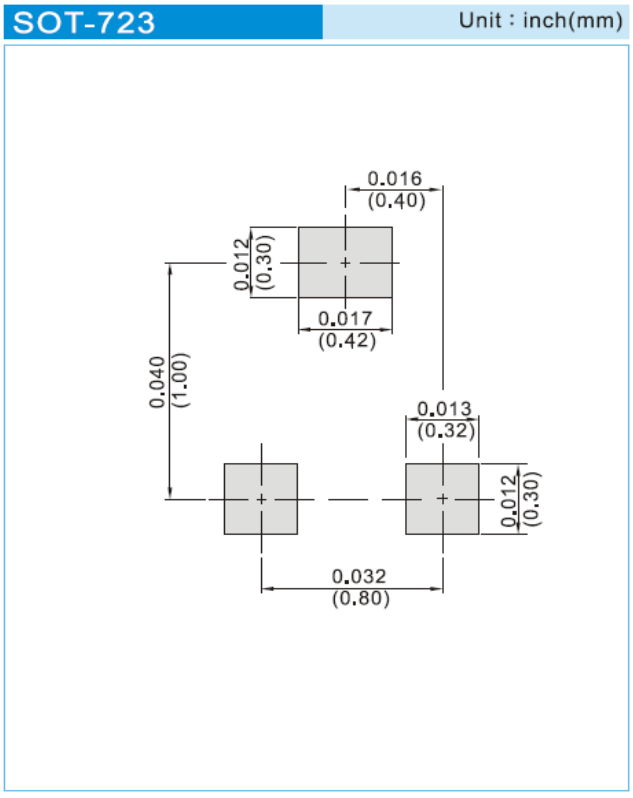


Fig.6 Threshold Voltage

SOT-723 Package information





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