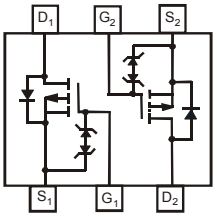
Dual P-channel MOSFET

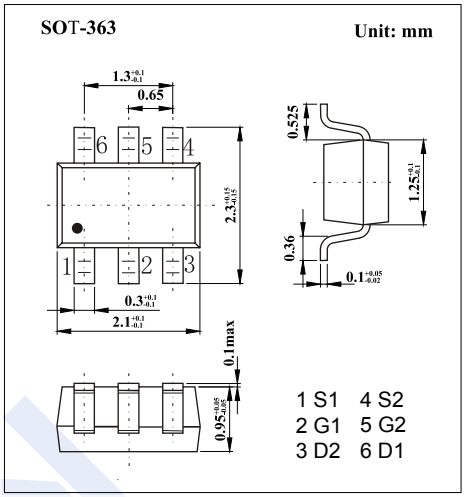
DMP2004DWK

■ Features

- V_{DS} (V) = -20V
- I_D = -540mA
- $R_{DS(on)max}$ = 0.55Ω @ V_{GS} = 4.5V
- Dual P-Channel MOSFET
- Low On-Resistance
- ESD Protected



Top View
Internal Schematic



■ Absolute Maximum Ratings (T_A = 25℃ Unless otherwise noted)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±8	
Continuous Drain Current	T_A = 25℃	I_D	-430	mA
	T_A = 85℃		-310	
Power Dissipation		P_D	250	mW
Thermal Resistance, Junction- to-Ambient		$R_{\theta JA}$	500	℃/W
Junction Temperature		T_J	150	℃
Junction Storage Temperature Range		T_{STG}	-55 to 150	

■ Electrical Characteristics (T_A = 25℃ Unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V, V_{GS}=0V			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±4.5V			±1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=-250μA	-0.5		-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-4.5V, I_D=-430mA			0.9	Ω
		V_{GS}=-2.5V, I_D=-300mA			1.4	
		V_{GS}=-1.8V, I_D=-150mA			2.0	
Forward Transconductance	g_{FS}	V_{DS}=-10V, I_D=-0.2A	200			mS
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-16V, f=1MHz			175	pF
Output Capacitance	C_{oss}				30	
Reverse Transfer Capacitance	C_{rss}				20	
Diode Forward Voltage	V_{SD}	I_{SD}=-115mA, V_{GS}=0V			-1.2	V

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■ Typical Characterisitics

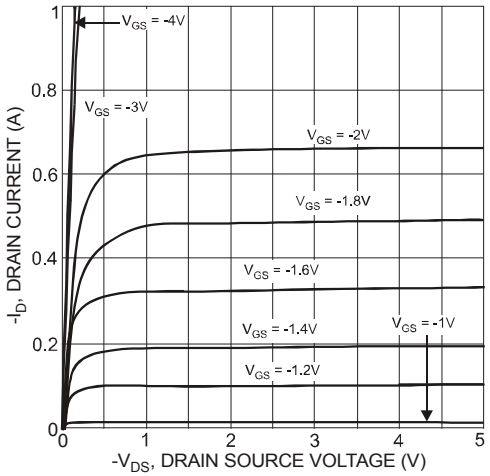

Fig. 1 Typical Output Characteristics

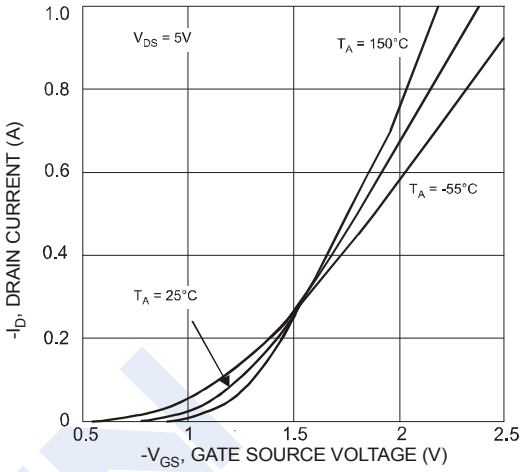

Fig. 2 Typical Transfer Characteristics

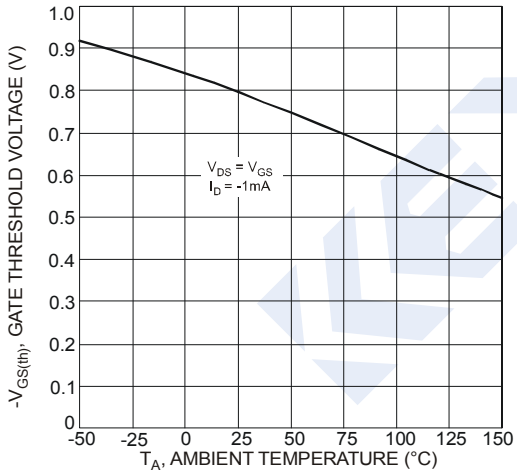

Fig. 3 Gate Threshold Voltage vs. Ambient Temperature

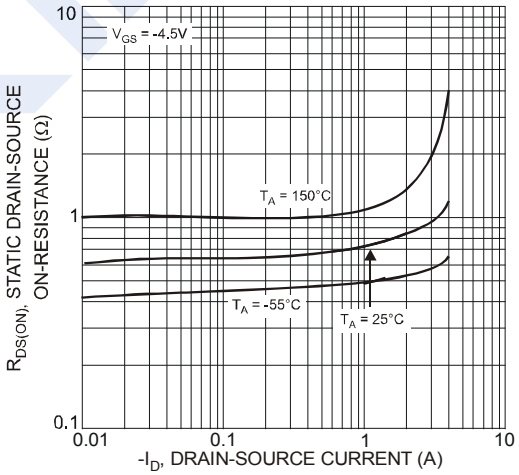

Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

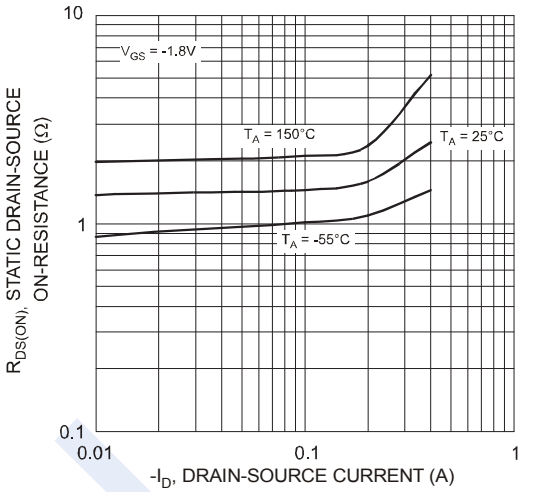

Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

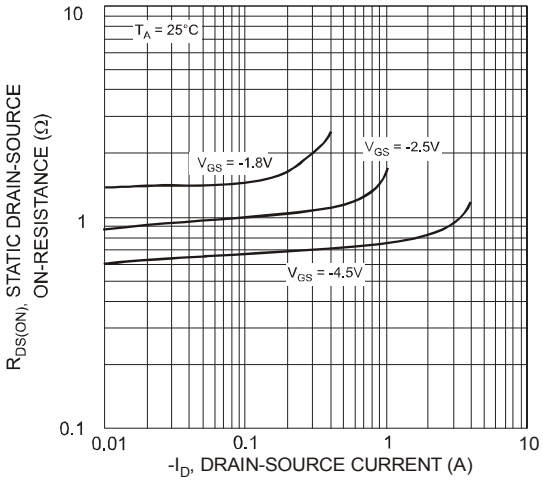

Fig. 6 Static Drain-Source On-Resistance vs. Drain-Source Current vs. Gate Source Voltage

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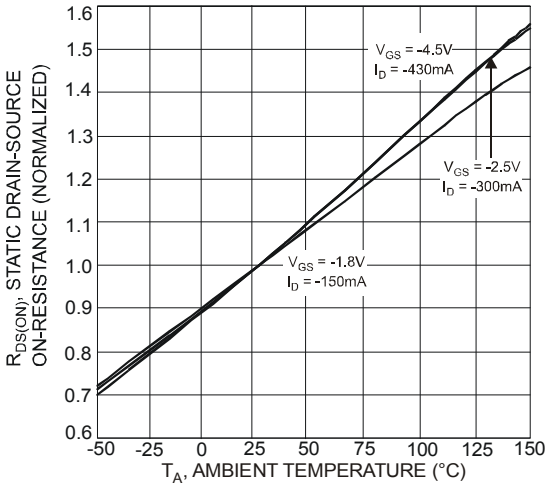

Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

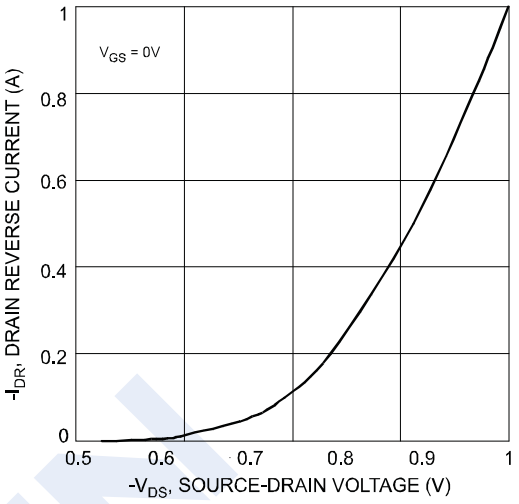

Fig. 8 Drain Reverse Current vs. Source-Drain Voltage

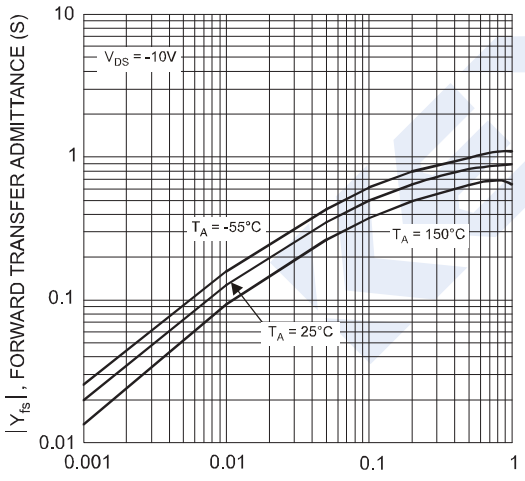

Fig. 9 Forward Transfer Admittance vs. Drain Current

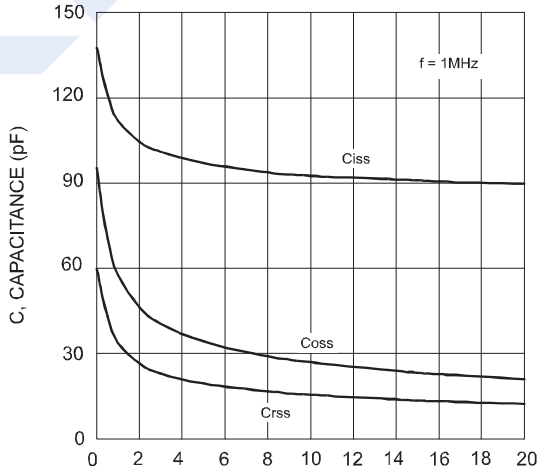

Fig. 10 Typical Capacitance