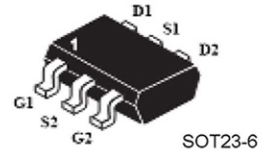
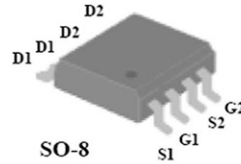


P-Channel Enhancement Mode Field Effect Transistor

FEATURES

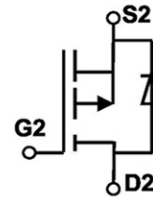
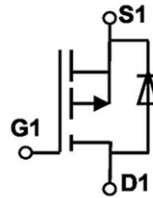
- Super high dense cell design for low $R_{DS(ON)}$
- Rugged and reliable
- Simple drive requirement
- SOP-8 /SOT23-6 package



PRODUCT SUMMARY		
V_{DSS}	I_D	$R_{DS(ON)}$ (m Ω) Typ
-20V	- 3A	60 @ $V_{GS}=-10V$
		70 @ $V_{GS}=-4.5V$



NOTE: The DP4953 is available
in a lead-free package



ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous ^a @ $T_j=125^{\circ}C$	I_D	- 3	A
- Pulse d^b	I_{DM}	-20	A
Drain-source Diode Forward Current ^a	I_S	-1.7	A
Maximum Power Dissipation ^a	P_D	2	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to Ambient ^a	$R_{th JA}$	50	$^{\circ}C/W$
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ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

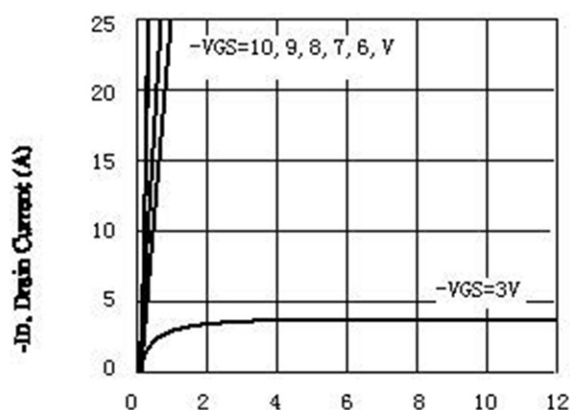
Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V,I _D =-250μA	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V,V _{GS} =0V			-1	μA
Gate-Body Leakage	I _{GSS}	V _{GS} =±12V,V _{DS} =0V			±100	nA
ON CHARACTERITICS						
Gate Threshold Voltage	V _{GS} (th)	V _{DS} =V _{GS} ,I _D =-250μA	-0.3	- 0. 7	-2.5	V
Drain-Source On-State Resistance	R _{DS} (ON)	V _{GS} =-10V,I _D =-5 A		60	75	m Ω
		V _{GS} =-4.5V,I _D =-4 A		70	95	
Forward Transconductance	g _{FS}	V _{GS} =-5V,I _D =-5 A		5		S
DAYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{DS} =-15V,V _{GS} =0V f=1.0MHz		582		pF
Output Capacitance	C _{OSS}			125		pF
Reverse Transfer Capacitance	C _{RSS}			86		pF
SWITCHING CHARACTERISISTICS						
Turn-On Delay Time	t _D (ON)	V _{DD} =-15V I _D =-5 A , V _{GEN} =-4.5V R _L =10ohm R _{GEN} =10ohm		9		ns
Rise Time	t _r			10		ns
Turn-Off Delay Time	t _D (OFF)			38		ns
Fall Time	t _f			23		ns
Total Gate Charge	Q _g	V _{DS} =-15V,I _D =-1A V _{GS} =-10V		11.7		nC
Gate-Source Charge	Q _{gs}			2.1		nC
Gate-Drain Charge	Q _{gd}			2.9		nC

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
DRAIN-SOURCE DIODE CHARACTERISTICS						
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-1.7A$		-0.84	-1.2	V

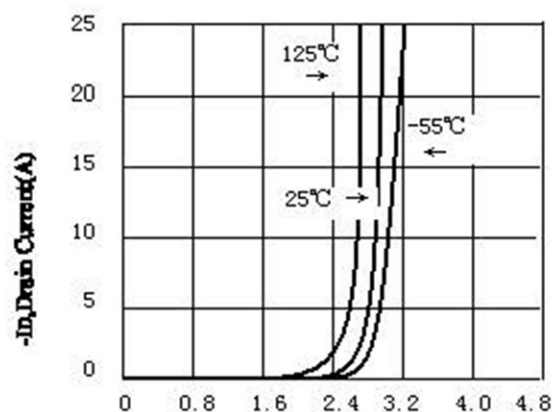
Notes

- Surface Mounted on FR4 Board, $t \leq 10\text{sec}$
- Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$
- Guaranteed by design, not subject to production testing.



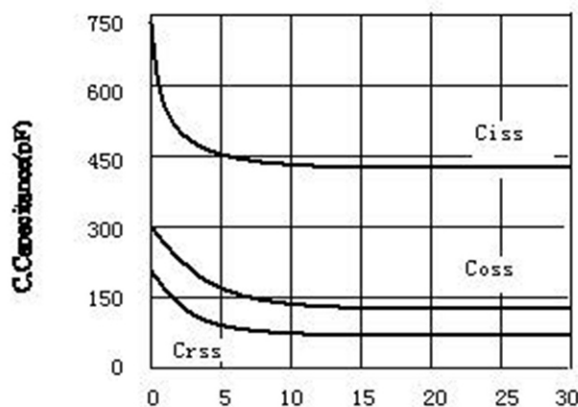
- V_{DS} , Drain-to-Source Voltage (V)

Figure 1. Output Characteristics



- V_{GS} , Gate-to-source Voltage (V)

Figure 2. Transfer Characteristics



- V_{GS} , Drain-to Source Voltage

Figure 3. Capacitance

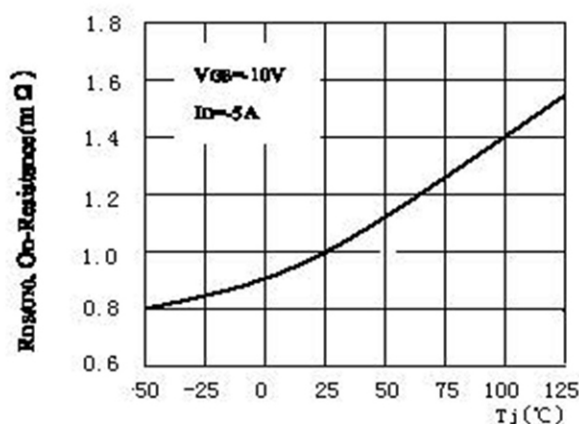


Figure 4. On-Resistance Variation with Temperature

