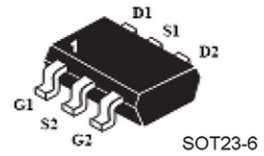
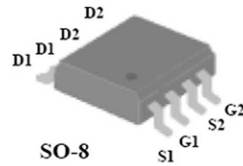


P-Channel Enhancement Mode Field Effect Transistor

FEATURES

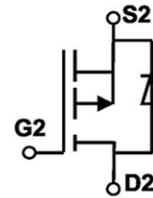
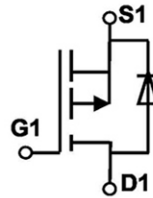
- Super high dense cell design for low $R_{DS(ON)}$
- Rugged and reliable
- Simple drive requirement
- SOP-8 /SOT23-6 package



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)

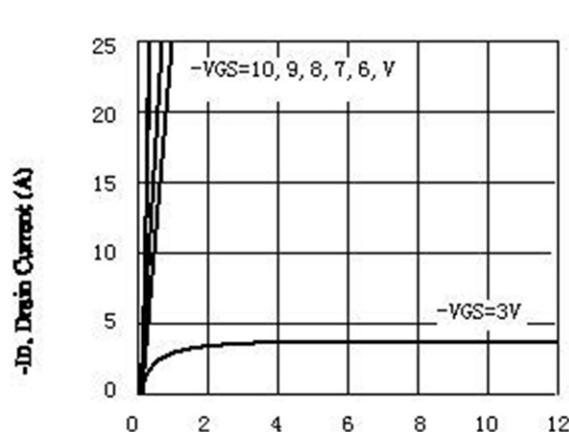
Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V,I _D =-250μA	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V,V _{GS} =0V			-1	μA
Gate-Body Leakage	I _{GSS}	V _{GS} =±12V,V _{DS} =0V			±100	nA
ON CHARACTERITICS						
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

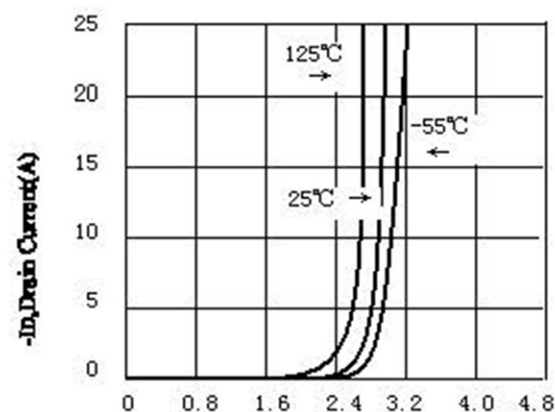
Notes

- 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.



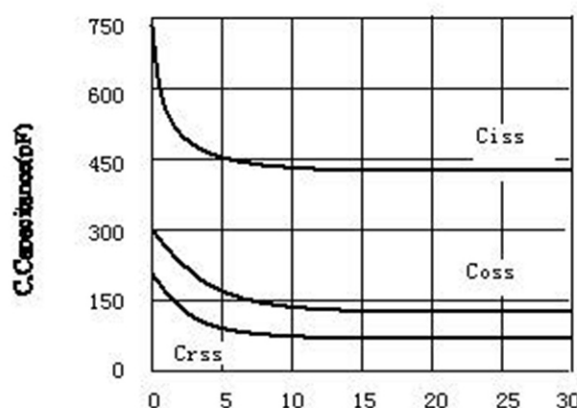
- V_{DS} , Drain-to-Source Voltage (V)

Figure 1. Output Characteristics



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

Figure 2. Transfer Characteristics



- V_{GS} , Drain-to Source Voltage

Figure 3. Capacitance

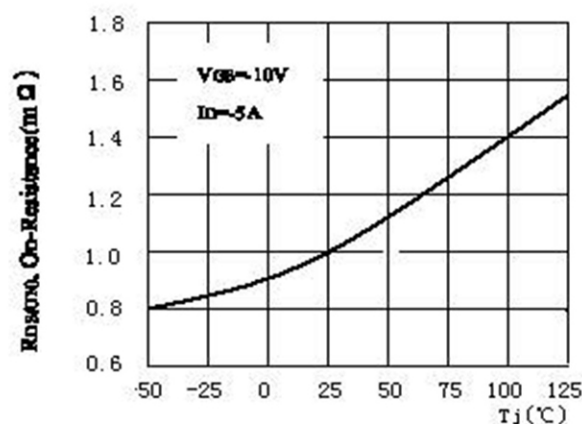


Figure 4. On-Resistance Variation with Temperature

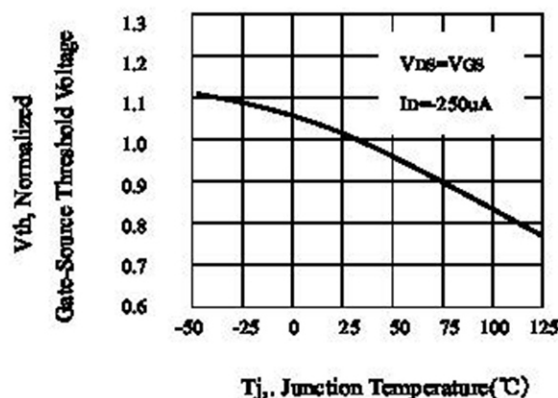


Figure5. Gate Threshold Variation With Temperature

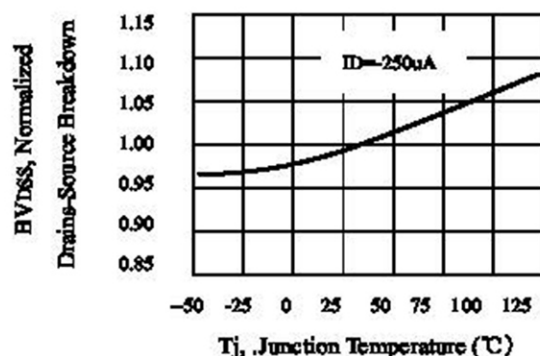


Figure6. Breakdown Voltage Variation With Temperature

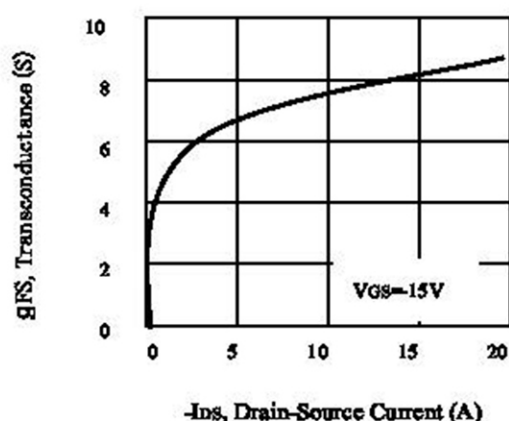


Figure7. Transconductance Variation With Drain Current

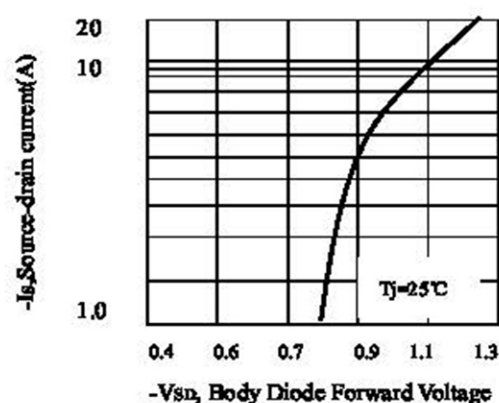


Figure8. Body Diode Forward Voltage Variation with Source Current

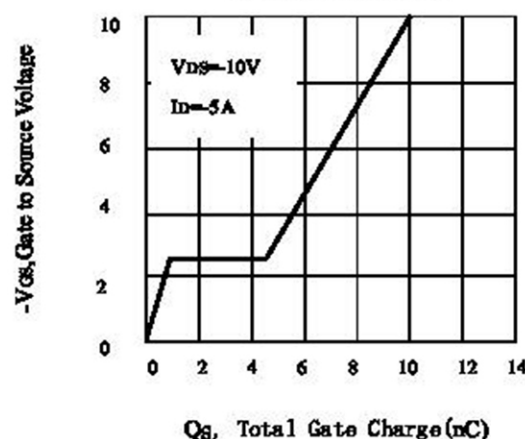


Figure9. Gate Charge

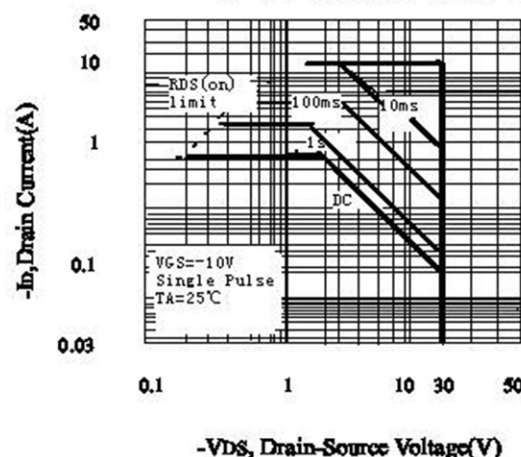


Figure10. Maximum Safe Operating Area