



## ELECTRICAL CHARACTERISTICS

### DC Characteristics

Ta = 25°C

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain Cut-Off Current	I <sub>dss</sub>	V <sub>ds</sub> =20V, V <sub>gs</sub> =0V	-	-	10	μA
Gate-Source Leak Current	I <sub>gss</sub>	V <sub>gs</sub> =±8V, V <sub>ds</sub> =0V	-	-	±1	μA
Gate-Source Cut-Off Voltage	V <sub>gs(off)</sub>	I <sub>d</sub> =1mA, V <sub>ds</sub> =10V	0.5	-	1.2	V
Drain-Source On-State Resistance *	R <sub>ds(on)</sub>	I <sub>d</sub> =5A, V <sub>gs</sub> =4.5V	-	0.009	0.012	Ω
		I <sub>d</sub> =5A, V <sub>gs</sub> =2.5V	-	0.011	0.015	Ω
		I <sub>d</sub> =1.5A, V <sub>gs</sub> =1.5V	-	0.017	0.025	Ω
Forward Transfer Admittance*	Y <sub>fs</sub>	I <sub>d</sub> =5A, V <sub>ds</sub> =10V	-	34	-	S
Body Drain Diode Forward Voltage	V <sub>f</sub>	I <sub>f</sub> =10A, V <sub>gs</sub> =0V	-	0.8	1.1	V

\* Effective during pulse test.

### Dynamic Characteristics

Ta = 25°C

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Input Capacitance	C <sub>iss</sub>	V <sub>ds</sub> =10V, V <sub>gs</sub> =0V f=1MHz	-	2000	-	pF
Output Capacitance	C <sub>oss</sub>		-	1000	-	pF
Feedback Capacitance	C <sub>rss</sub>		-	450	-	pF

### Switching Characteristics

Ta = 25°C

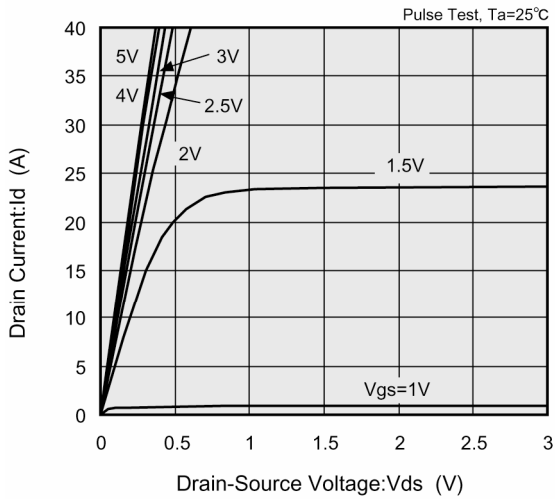
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Turn-On Delay Time	t <sub>d (on)</sub>	V <sub>gs</sub> =5V, I <sub>d</sub> =5A V <sub>dd</sub> =10V	-	15	-	ns
Rise Time	t <sub>r</sub>		-	25	-	ns
Turn-Off Delay Time	t <sub>d (off)</sub>		-	95	-	ns
Fall Time	t <sub>f</sub>		-	15	-	ns

### Thermal Characteristics

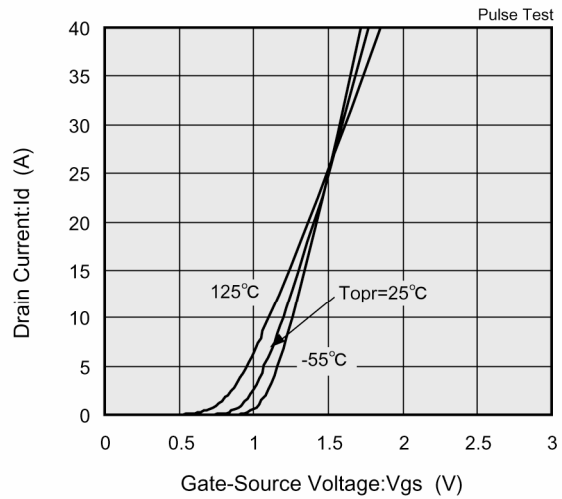
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Thermal Resistance (Channel-Ambience)	R <sub>th (ch-a)</sub>	Implement on a glass epoxy resin PCB	-	50	-	°C/W

## TYPICAL PERFORMANCE CHARACTERISTICS

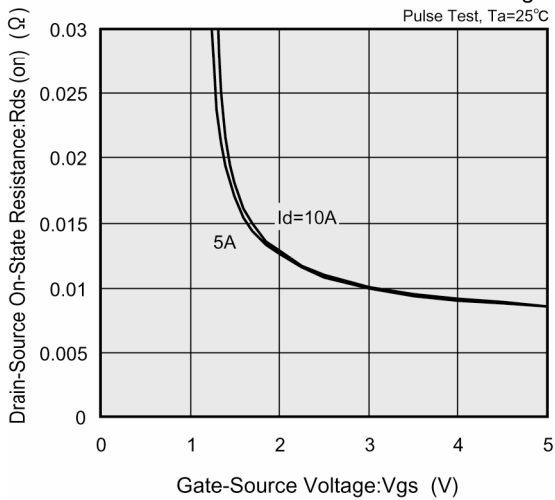
(1) Drain Current vs. Drain-Source Voltage



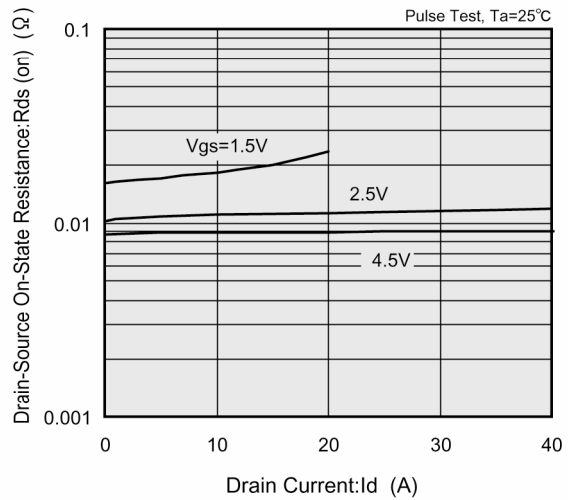
(2) Drain Current vs. Gate-Source Voltage



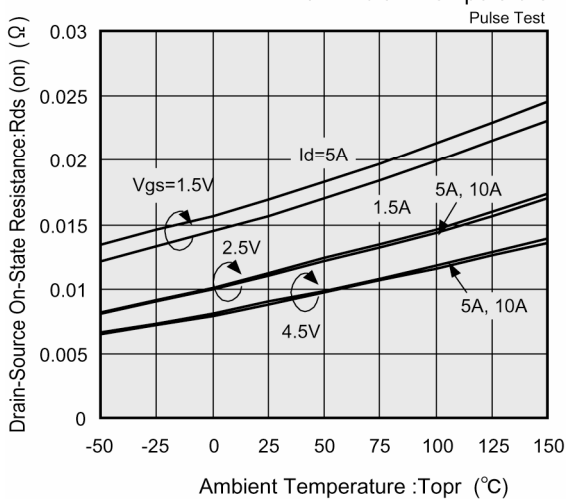
(3) Drain-Source On-State Resistance vs. Gate-Source Voltage



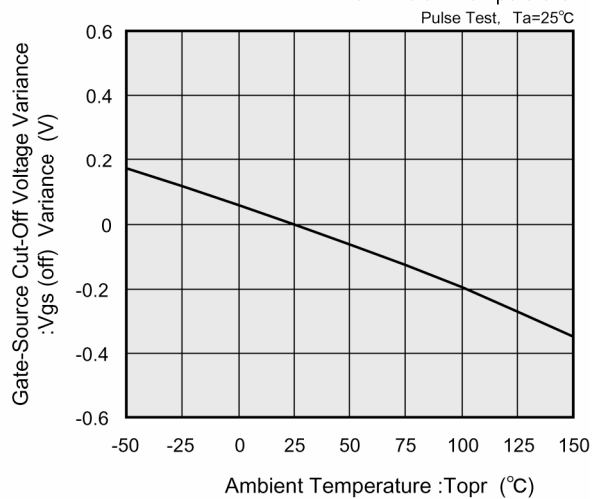
(4) Drain-Source On-State Resistance vs. Drain Current



(5) Drain-Source On-State Resistance vs. Ambient Temperature

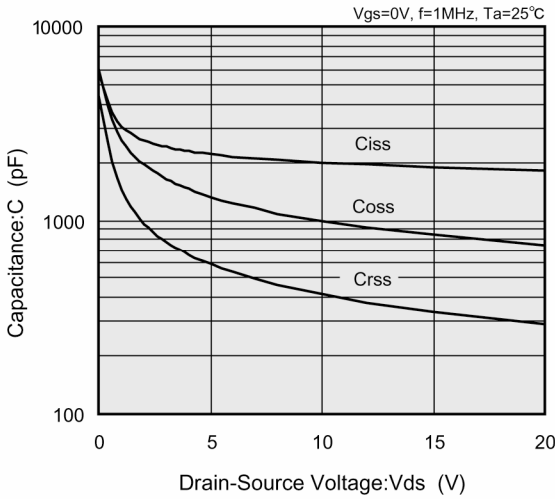


(6) Gate-Source Cut-Off Voltage Variance vs. Ambient Temperature

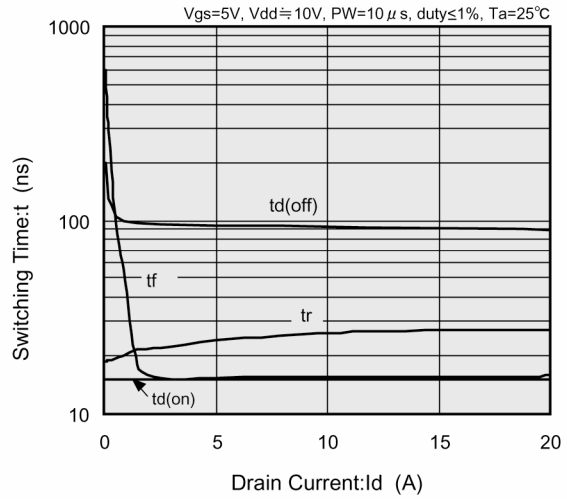


## TYPICAL PERFORMANCE CHARACTERISTICS (Continued)

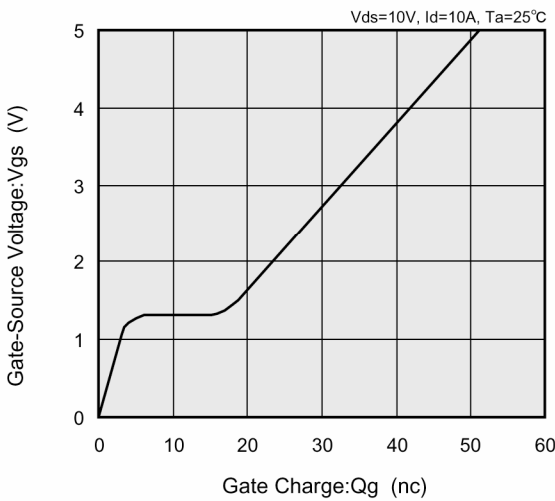
(7) Capacitance vs. Drain-Source Voltage



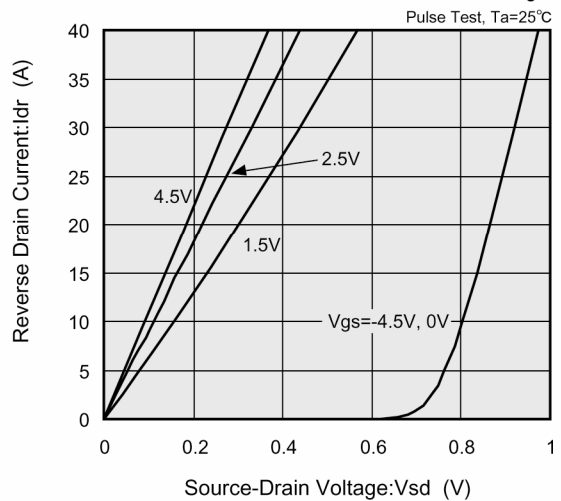
(8) Switching Time vs. Drain Current



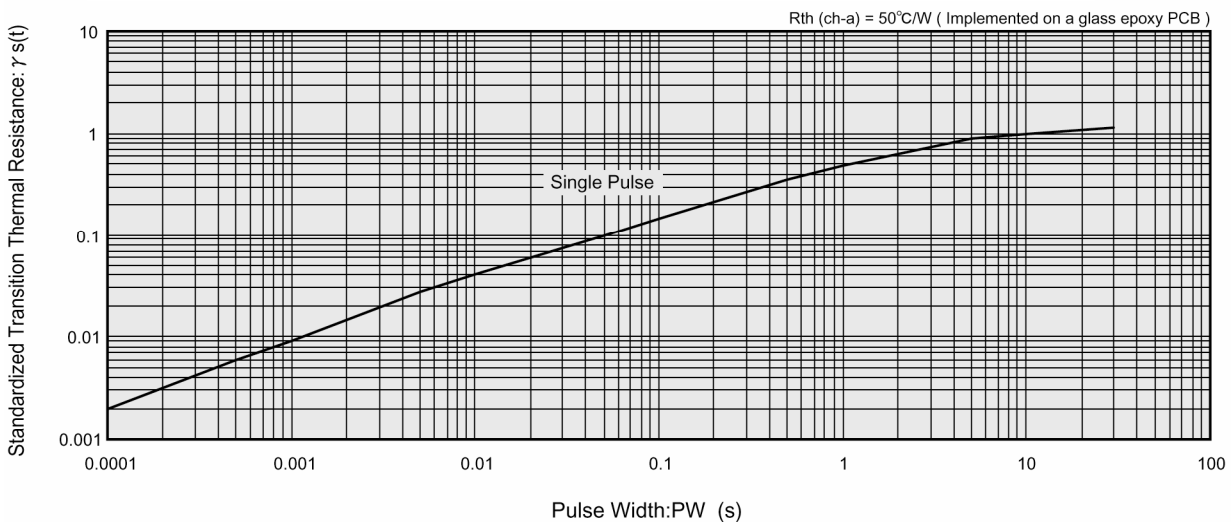
(9) Gate-Source Voltage vs. Gate Charge



(10) Reverse Drain Current vs. Source-Drain Voltage



(11) Standardized transition Thermal Resistance vs. Pulse Width



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