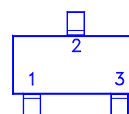
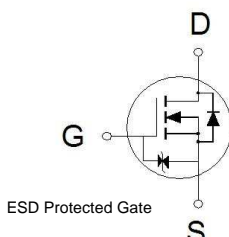


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
20V	450mΩ	0.7A



1. GATE
2. DRAIN
3. SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ °C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Current	$T_A = 25\text{ °C}$	I_D	0.7	A
	$T_A = 70\text{ °C}$		0.6	
Pulsed Drain Current ¹		I_{DM}	2	
Power Dissipation	$T_A = 25\text{ °C}$	P_D	0.4	W
	$T_A = 70\text{ °C}$		0.2	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$R_{\theta JA}$		280	°C/W

¹Pulse width limited by maximum junction temperature.

²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25\text{ °C}$. The value in any given application depends on the user's specific board design.

ELECTRICAL CHARACTERISTICS ($T_J = 25\text{ °C}$, Unless Otherwise Noted)

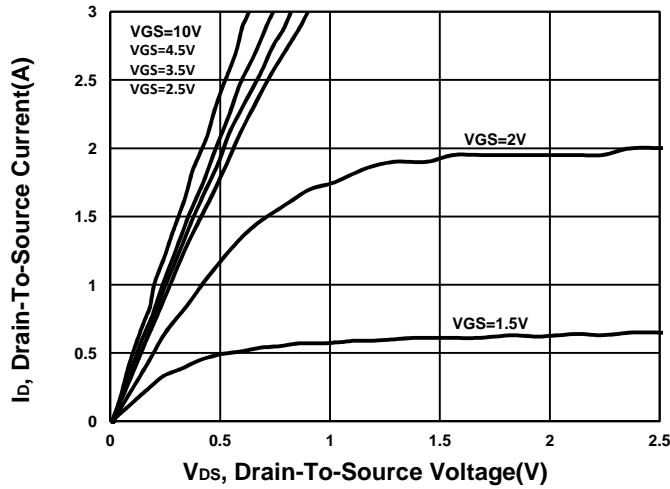
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35	0.6	1	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			±30	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V$			1	μA
		$V_{DS} = 10V, V_{GS} = 0V, T_J = 55\text{ °C}$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 1.8V, I_D = 0.35A$		384	850	mΩ
		$V_{GS} = 2.5V, I_D = 0.5A$		274	765	
		$V_{GS} = 4.5V, I_D = 0.6A$		213	450	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 0.6A$		2		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 10V, f = 1MHz$		38		pF
Output Capacitance	C_{oss}			16		
Reverse Transfer Capacitance	C_{rss}			12		
Total Gate Charge ²	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V,$ $I_D = 0.6A$		1.4		nC
Gate-Source Charge ²	Q_{gs}			0.4		
Gate-Drain Charge ²	Q_{gd}			0.8		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 6V,$ $I_D \cong 0.6 A, V_{GS} = 4.5V, R_{GS} = 6 \Omega$		6		nS
Rise Time ²	t_r			18		
Turn-Off Delay Time ²	$t_{d(off)}$			30		
Fall Time ²	t_f			25		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				0.7	A
Forward Voltage ¹	V_{SD}	$I_F = 0.15A, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	t_{rr}	$V_{DS} = 12V,$ $I_F = 2A, dI_F/dt = 100 A/\mu s$		233		nS
Reverse Recovery Charge	Q_{rr}			630		nC

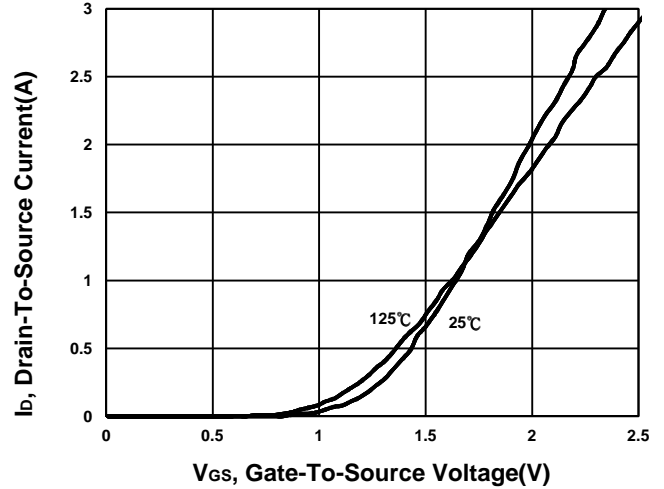
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

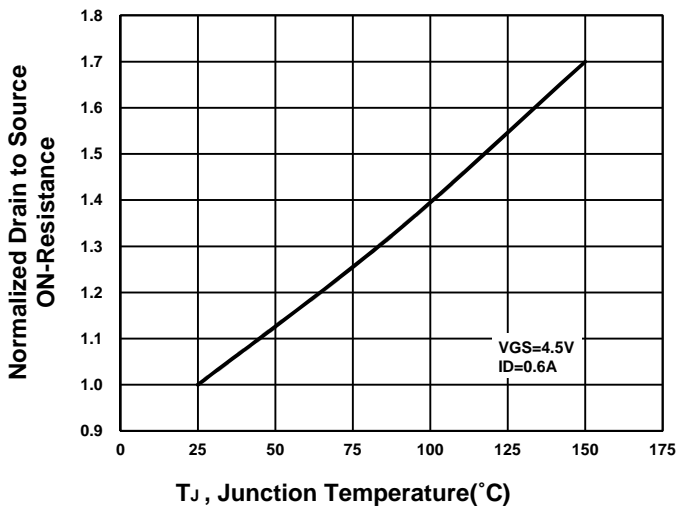
Output Characteristics



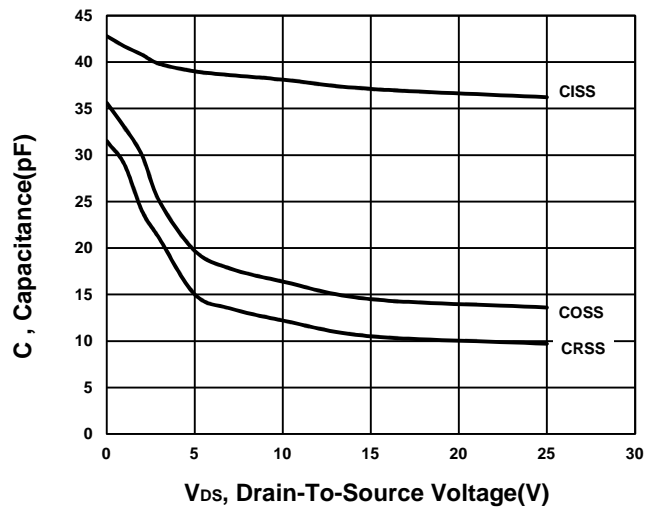
Transfer Characteristics



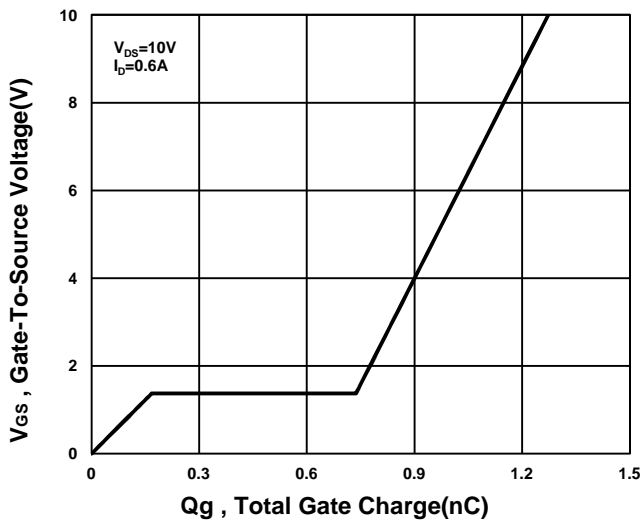
On-Resistance VS Temperature



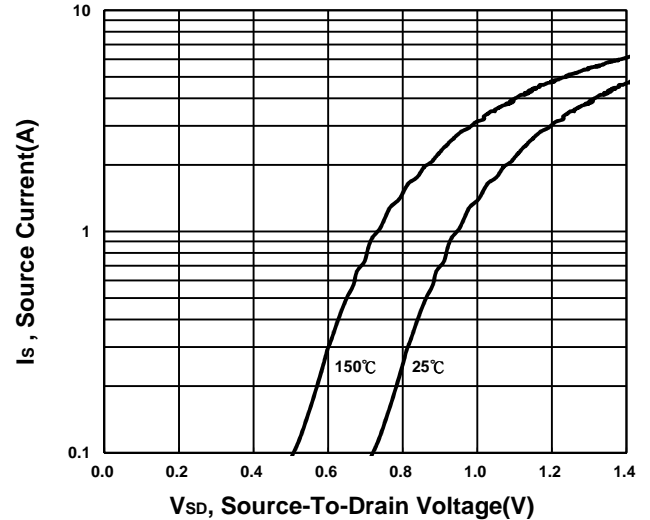
Capacitance Characteristic



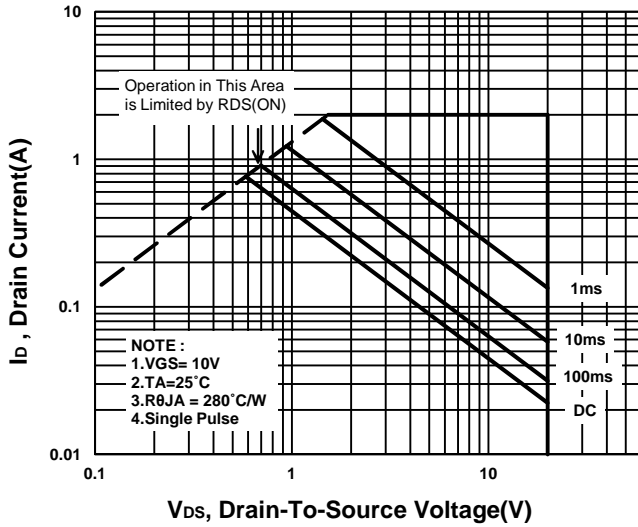
Gate charge Characteristics



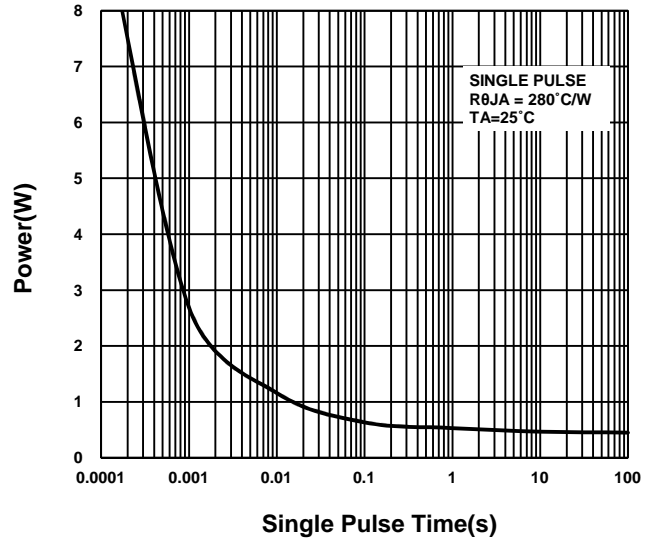
Source-Drain Diode Forward Voltage



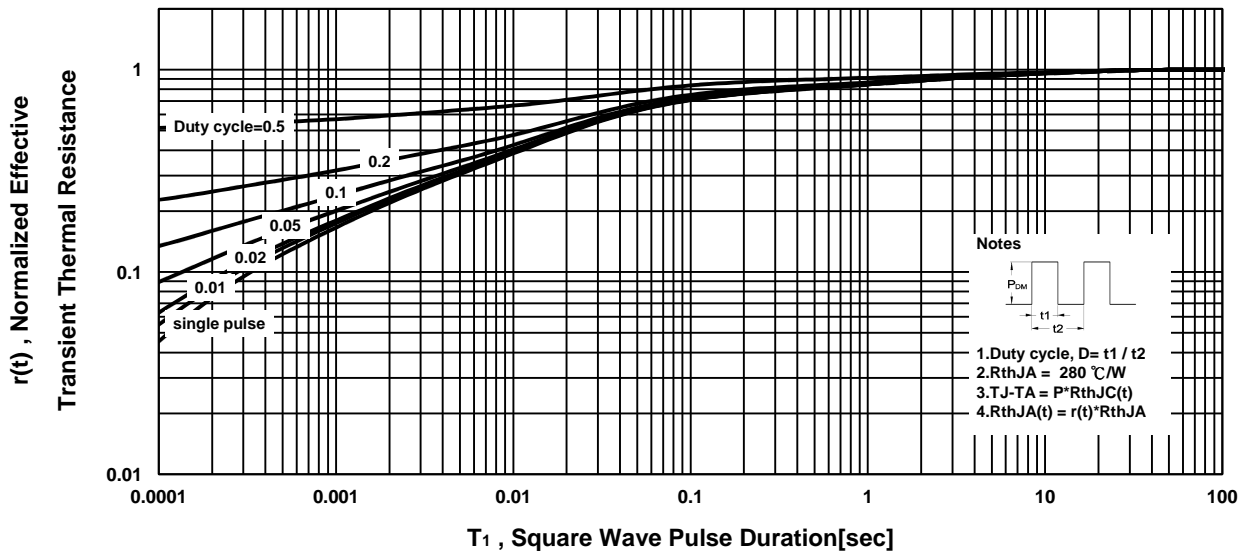
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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