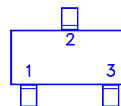
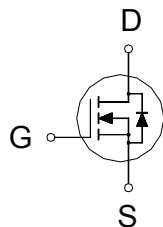


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
55V	180mΩ	1.6A



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}	55V	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_A = 25\text{ °C}$	I_D	1.6	A
	$T_A = 70\text{ °C}$		1	
Pulsed Drain Current ¹		I_{DM}	11	
Avalanche Current		I_{AS}	11	
Avalanche Energy	L = 0.1 mH	E_{AS}	6	mJ
Power Dissipation	$T_A = 25\text{ °C}$	P_D	0.8	W
	$T_A = 70\text{ °C}$		0.3	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		140	°C / W

¹Pulse width limited by maximum junction temperature.

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

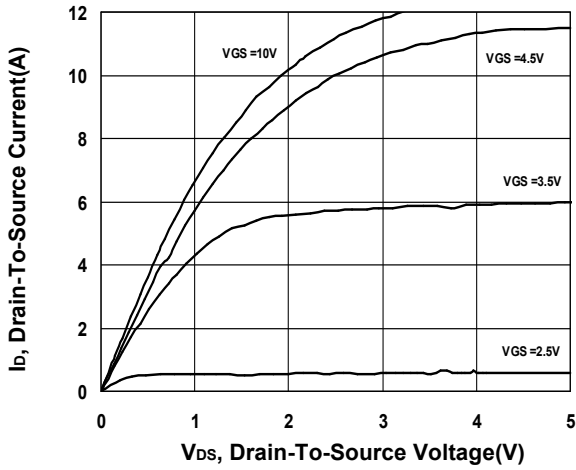
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	55			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.5	2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 44V, V_{GS} = 0V$			1	μA
		$V_{DS} = 40V, V_{GS} = 0V, T_J = 55\text{ °C}$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	11			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 1.5A$		158	250	mΩ
		$V_{GS} = 10V, I_D = 1.6A$		135	180	

Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 1.6A$		6		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		243		pF
Output Capacitance	C_{oss}			18		
Reverse Transfer Capacitance	C_{rss}			14		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		2.3		Ω
Total Gate Charge ²	Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V, I_D = 1.6A$		6.4		nC
Gate-Source Charge ²	Q_{gs}			0.8		
Gate-Drain Charge ²	Q_{gd}			2.5		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 30V, I_D \cong 1.5A, V_{GS} = 10V, R_G = 1\Omega$		6		nS
Rise Time ²	t_r			15		
Turn-Off Delay Time ²	$t_{d(off)}$			15		
Fall Time ²	t_f			10		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I_S				1.6	A
Forward Voltage ¹	V_{SD}	$I_F = 1.6A, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 1.6A, di_F/dt = 100 A/\mu s$		18.3		nS
Reverse Recovery Charge	Q_{rr}				13	

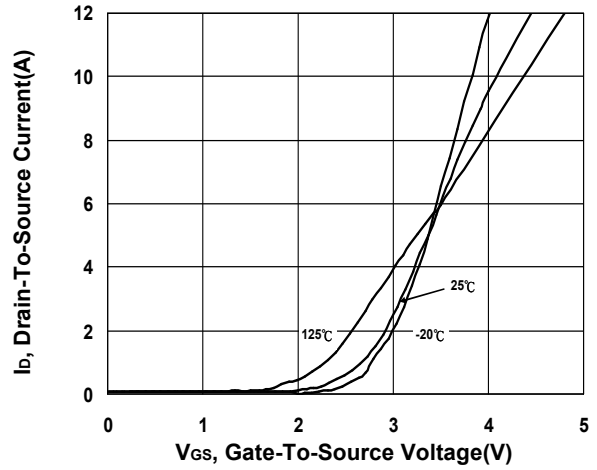
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

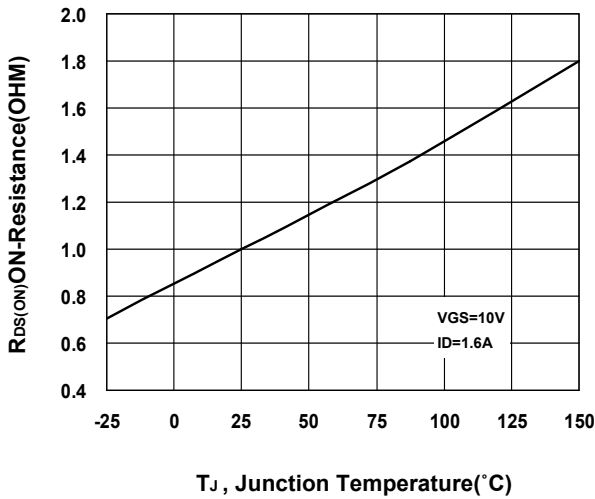
Output Characteristics



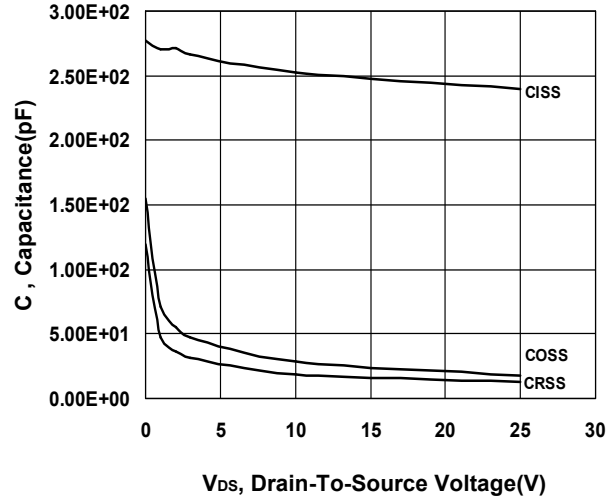
Transfer Characteristics



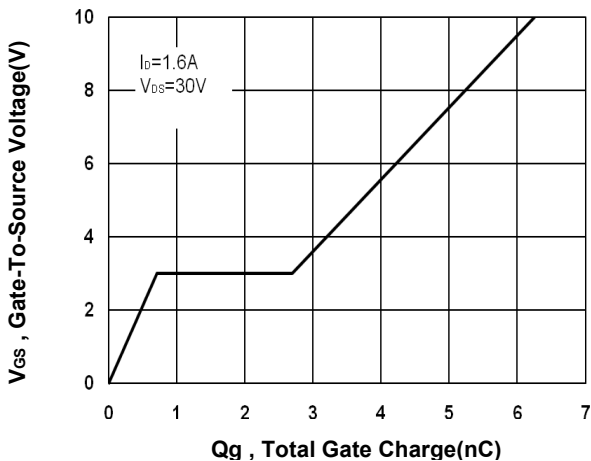
On-Resistance VS Temperature



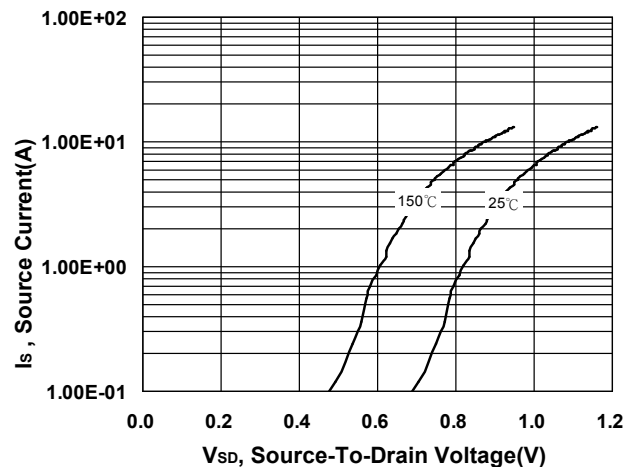
Capacitance Characteristic



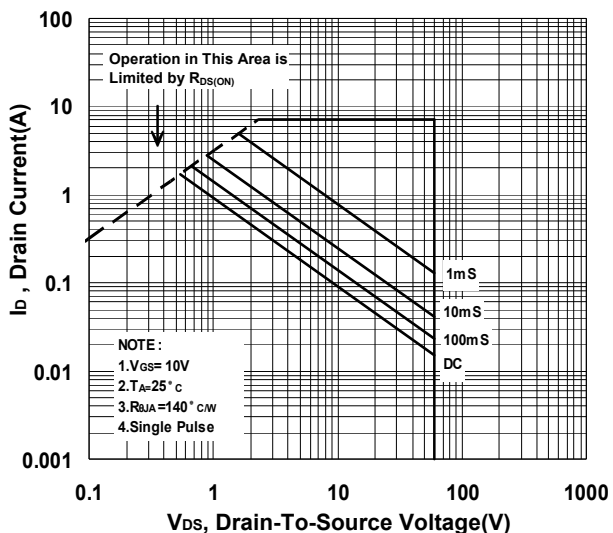
Gate charge Characteristics



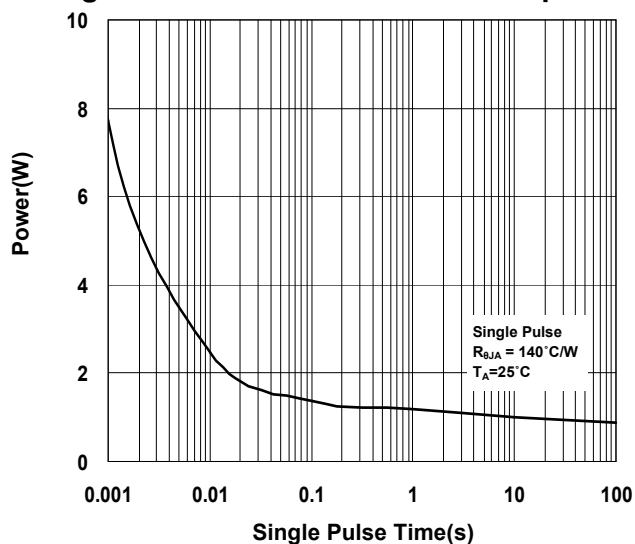
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

