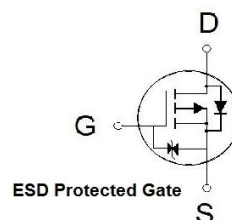




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	60m Ω	-2.8A

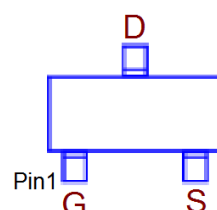


Features

- Pb-Free, Halogen Free and RoHS compliant.
- Low $R_{DS(on)}$ to Minimize Conduction Losses.
- Ohmic Region Good $R_{DS(on)}$ Ratio.
- Optimized Gate Charge to Minimize Switching Losses.
- Products Integrated ESD diode with ESD Protected up to 2KV.

Applications

- Protection Circuits Applications.
- Logic/Load Switch Circuits Applications.



G: GATE
D: DRAIN
S: SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	-2.8	A
	$T_A = 70^\circ\text{C}$		-2.2	
Pulsed Drain Current ¹		I_{DM}	-20	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	0.8	W
	$T_A = 70^\circ\text{C}$		0.5	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$R_{\theta JA}$		162	$^\circ\text{C/W}$

¹Pulse width limited by maximum junction temperature.

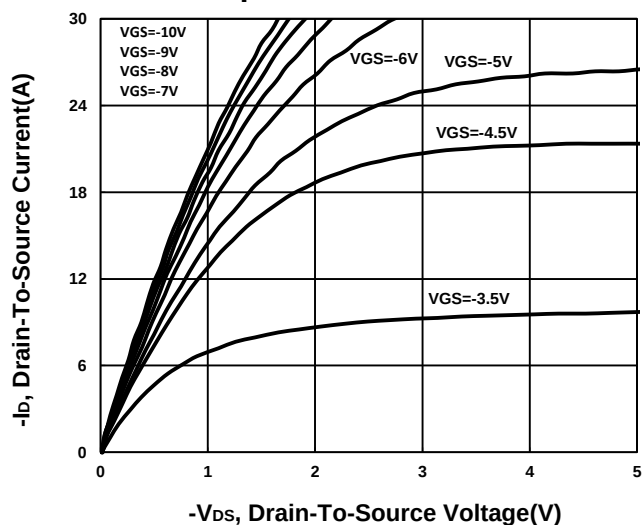
²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$. The value in any given application depends on the user's specific board design.

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

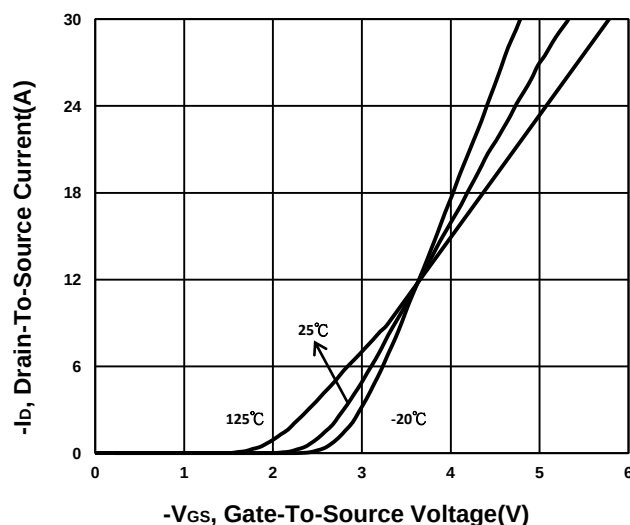
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.3	-1.65	-2.3	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±16V			±30	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	μA
		V _{DS} = -20V, V _{GS} = 0V, T _J = 55 ° C			-10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -4.5V, I _D = -2.8A		70	90	mΩ
		V _{GS} = -10V, I _D = -2.8A		52	60	
Forward Transconductance ¹	g _{fs}	V _{DS} = -5V, I _D = -2.8A		9		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -15V, f = 1MHz		521		pF
Output Capacitance	C _{oss}			92		
Reverse Transfer Capacitance	C _{rss}			76		
Total Gate Charge ²	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -2.8A		12.3		nC
Gate-Source Charge ²	Q _{gs}			1.4		
Gate-Drain Charge ²	Q _{gd}			2.9		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = -15V, I _D ≅ -2.8A, V _{GS} = -10V, R _{GS} = 6Ω		12		nS
Rise Time ²	t _r			21		
Turn-Off Delay Time ²	t _{d(off)}			52		
Fall Time ²	t _f			32		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 ° C)						
Continuous Current	I _S				-0.7	A
Forward Voltage ¹	V _{SD}	I _F = -2.8A, V _{GS} = 0V			-1.1	V
Reverse Recovery Time	t _{rr}	I _F = -2.8A, dI _F /dt = 100 A/μs		13.5		nS
Reverse Recovery Charge	Q _{rr}			5		uC

¹Pulse test : Pulse Width $\leq 300\mu\text{sec}$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.

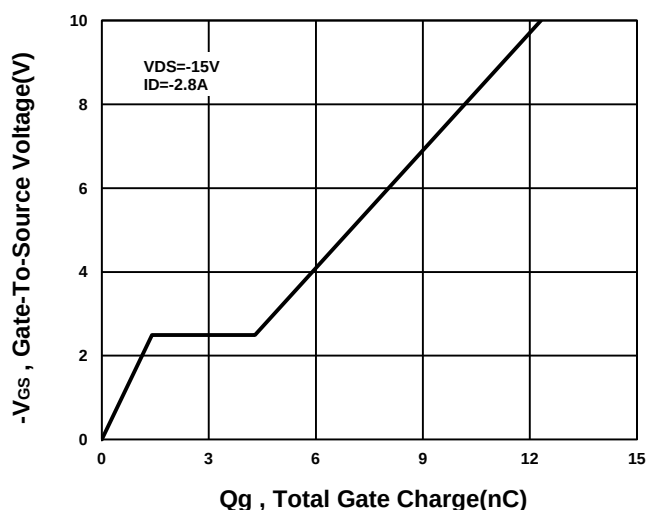
Output Characteristics



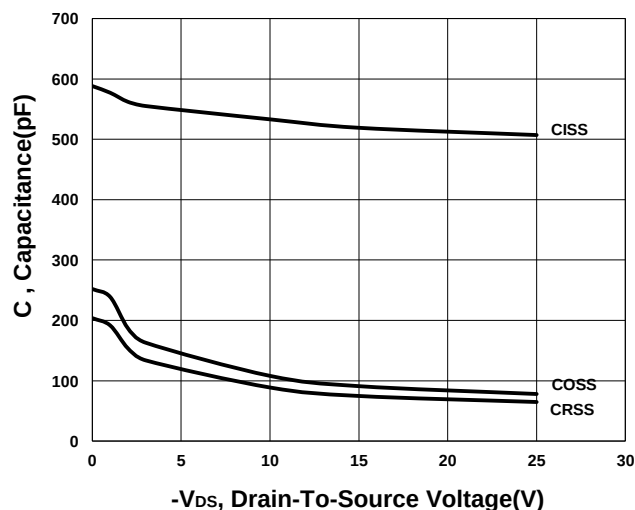
Transfer Characteristics



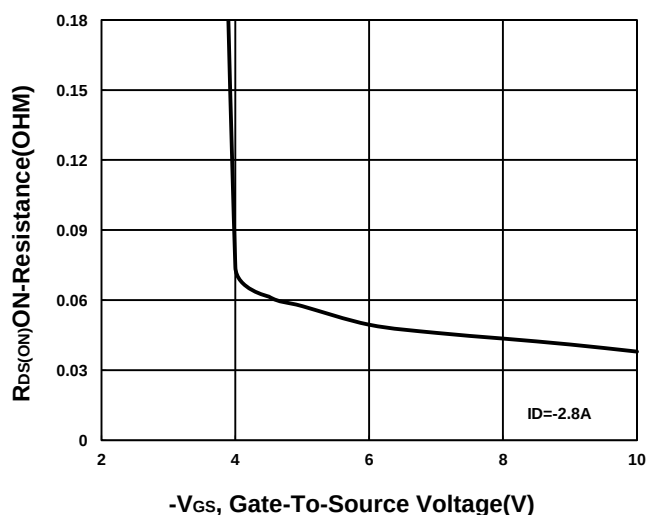
Gate charge Characteristics



Capacitance Characteristic



On-Resistance VS Gate-To-Source



On-Resistance VS Drain Current

