



PRODUCT SUMMARY

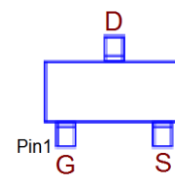
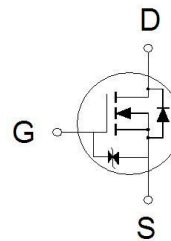
$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	480mΩ	0.65A

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.

Applications

- Protection Circuits Applications.
- Logic/Load Switch Circuits Applications.
- Space Limit & Smart Devices Applications.



G: GATE
D: DRAIN
S: SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current ²	$T_A = 25\text{ °C}$	I_D	0.65	A
	$T_A = 70\text{ °C}$		0.52	
Pulsed Drain Current ¹		I_{DM}	1.6	A
Power Dissipation	$T_A = 25\text{ °C}$	P_D	0.4	W
	$T_A = 70\text{ °C}$		0.26	
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 ³	$R_{\theta JA}$		300	°C / W

¹Limited by maximum junction temperature.

²Limited by package.

³The 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 $T_A = 25\text{ °C}$.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.4	0.8	1.2	

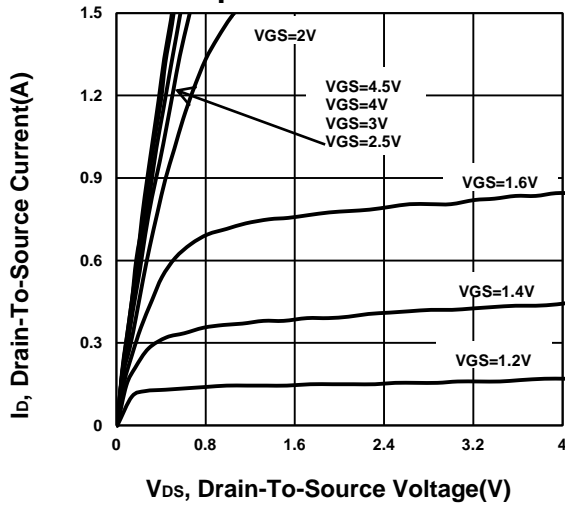
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 10V$			± 30	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
		$V_{DS} = 30V, V_{GS} = 0V, T_J = 55^\circ C$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 0.5A$		305	480	$m\Omega$
		$V_{GS} = 4V, I_D = 0.5A$		315	500	
		$V_{GS} = 2.5V, I_D = 0.25A$		380	700	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 0.5A$		2		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		45		pF
Output Capacitance	C_{oss}			14		
Reverse Transfer Capacitance	C_{rss}			6.5		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 15V, I_D \cong 1A, V_{GS} = 4.5V, R_{GEN} = 6\Omega$		17		nS
Rise Time ²	t_r			32		
Turn-Off Delay Time ²	$t_{d(off)}$			92		
Fall Time ²	t_f			46		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				0.3	A
Forward Voltage ¹	V_{SD}	$I_F = 0.5A, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 1A, di/dt = 100 A/\mu s$		34		nS
Reverse Recovery Charge	Q_{rr}			13		nC

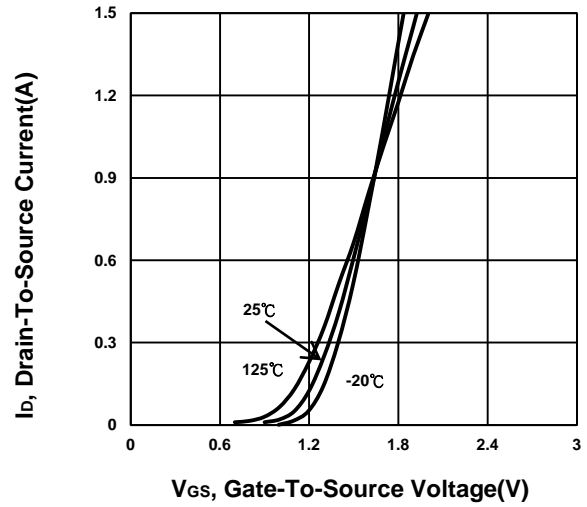
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

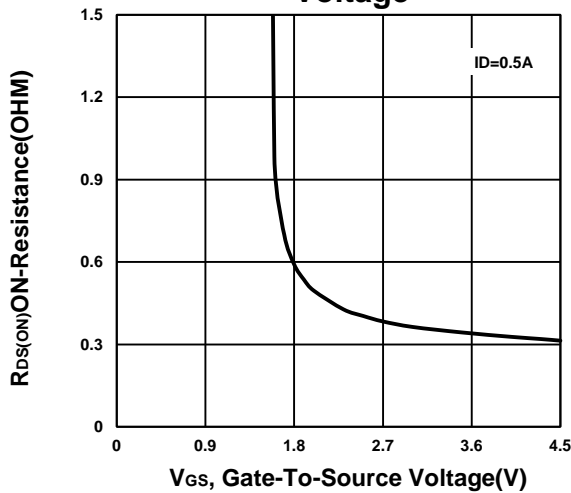
Output Characteristics



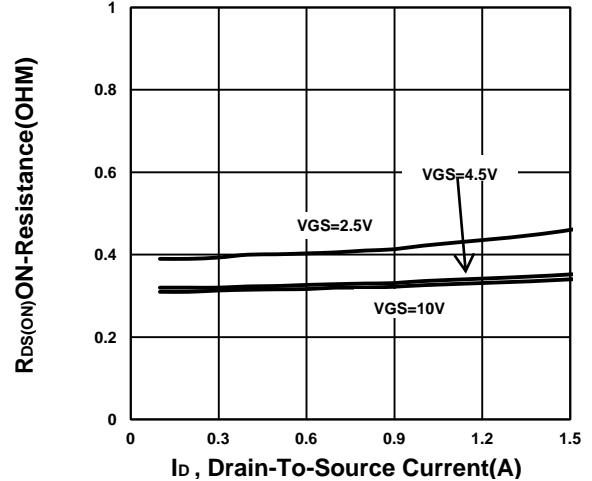
Transfer Characteristics



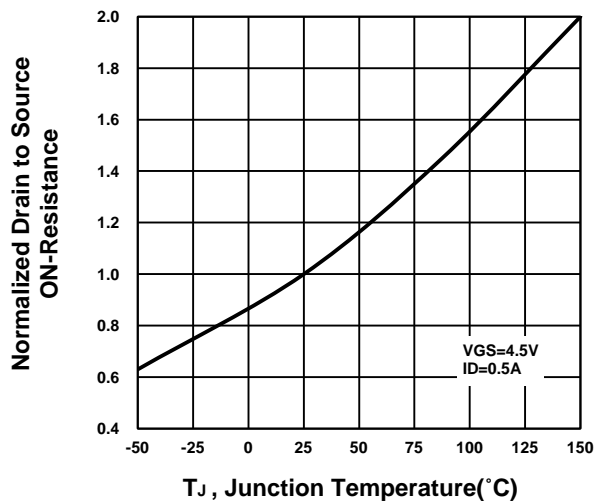
On-Resistance VS Gate-To-Source Voltage



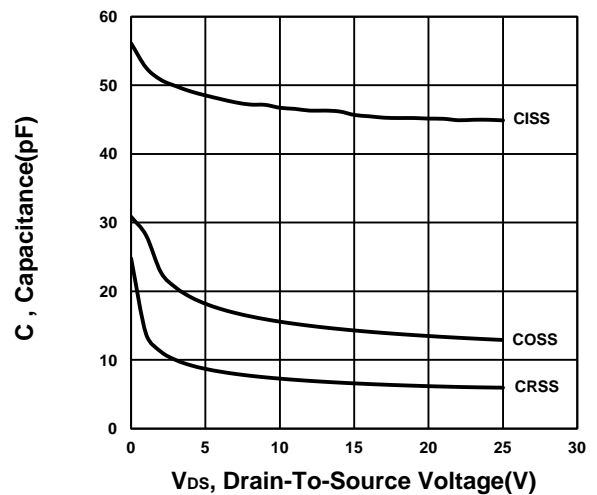
On-Resistance VS Drain Current



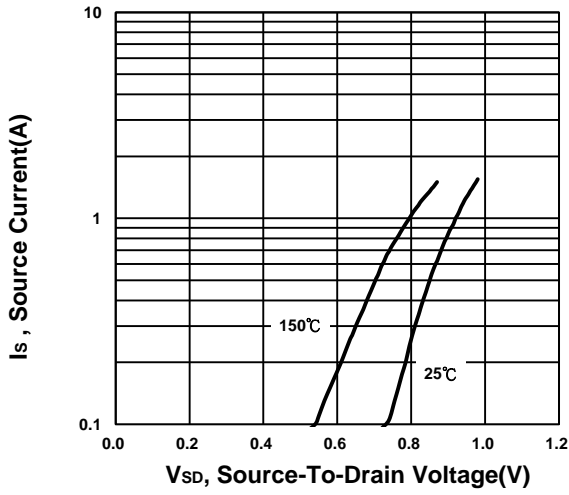
On-Resistance VS Temperature



Capacitance Characteristic



Source-Drain Diode Forward Voltage



Safe Operating Area

