



## ELECTRICAL CHARACTERISTIC ( CHM6861JGP )

**Electrical Characteristics**  $T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Conditions	Min	Typ	Max	Units
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### OFF CHARACTERISTICS

$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}, I_D = -250\ \mu\text{A}$	-60			V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = -60\text{ V}, V_{GS} = 0\text{ V}$			-1	$\mu\text{A}$
$I_{GSSF}$	Gate-Body Leakage	$V_{GS} = 20\text{ V}, V_{DS} = 0\text{ V}$			+100	nA
$I_{GSSR}$	Gate-Body Leakage	$V_{GS} = -20\text{ V}, V_{DS} = 0\text{ V}$			-100	nA

### ON CHARACTERISTICS (Note 2)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-1		-3	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	$V_{GS} = -10\text{ V}, I_D = -3.5\text{ A}$		99	125	m $\Omega$
		$V_{GS} = -4.5\text{ V}, I_D = -3.1\text{ A}$		130	169	
$g_{FS}$	Forward Transconductance	$V_{DS} = -10\text{ V}, I_D = -3.5\text{ A}$		7		S

### Dynamic Characteristics

$C_{iss}$	Input Capacitance	$V_{DS} = -30\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$		885		pF
$C_{oss}$	Output Capacitance			85		
$C_{rss}$	Reverse Transfer Capacitance			80		

### SWITCHING CHARACTERISTICS (Note 4)

$Q_g$	Total Gate Charge	$V_{DS} = -30\text{ V}, I_D = -3.5\text{ A}$ $V_{GS} = -10\text{ V}$		11	14	nC
$Q_{gs}$	Gate-Source Charge			2.4		
$Q_{gd}$	Gate-Drain Charge			1.6		
$t_{on}$	Turn-On Time	$V_{DD} = -30\text{ V}$ $I_D = -1\text{ A}, V_{GS} = -10\text{ V}$ $R_{GEN} = 6\ \Omega$		12	25	nS
$t_r$	Rise Time			4	15	
$t_{off}$	Turn-Off Time			38	80	
$t_f$	Fall Time			12	25	

### DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS

$I_S$	Drain-Source Diode Forward Current	(Note 1)			-3.5	A
$V_{SD}$	Drain-Source Diode Forward Voltage	$I_S = -1.3\text{ A}, V_{GS} = 0\text{ V}$ (Note 2)			-1.2	V