




**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
<b>STATIC ELECTRICAL RATINGS</b>					
$BV_{DSS}$ Drain – Source Breakdown Voltage*	$V_{GS} = 0$ $I_D = -1mA$	-100			V
$R_{DS(on)}$ Static Drain – Source On–State Resistance <sup>1</sup>	$V_{GS} = -10V$ $I_D = -4.1A$			0.30*	$\Omega$
$V_{GS(th)}$ Gate Threshold Voltage*	$V_{DS} = V_{GS}$ $I_D = -0.25mA$	-2		-4	V
$I_{GSS}$ Forward Gate – Source Leakage	$V_{GS} = -20V$			-100	nA
$I_{GSS}$ Reverse Gate – Source Leakage	$V_{GS} = 20V$			100	
$I_{DSS}$ Zero Gate Voltage Drain Current*	$V_{DS} = \text{Max rating} \times 0.8$ $V_{GS} = 0V$ $T_C = -125^{\circ}C$			-25 -250	$\mu A$
$V_{DS(on)}$ On-State Drain Voltage <sup>1</sup>	$V_{DS} \geq I_{D(on)}R_{DS(on)max.}$ $V_{GS} = -10V$ $I_D = -6.5A$			-2.1	V
$g_{fs}$ Forward Transconductance <sup>1</sup>	$V_{DS} = -5V$ $I_D = -4.1A$	2.5	3.5	7.5	S( $\bar{\Omega}$ )
$C_{iss}$ Input Capacitance	$V_{GS} = 0V$ $V_{DS} = -25V$ $f = 1.0\text{ MHz}$		800		pF
$C_{oss}$ Output Capacitance			300		
$C_{riss}$ Reverse Transfer Capacitance			125		
$Q_g$ Total Gate Charge	$V_{GS} = -15V$ $I_D = -15A$ $V_{DS} = 0.8 \times \text{Max Rating}$		25	45	nC
$Q_{gs}$ Gate – Source Charge			13	23	
$Q_{gd}$ Gate – Drain (“Miller”) Charge			12	22	
$t_{d(on)}$ Turn–On Delay Time	$V_{DD} = -42V$ $I_D = -4.1A$ $Z_o = 50\Omega$		30	60	ns
$t_r$ Rise Time			70	140	
$t_{d(off)}$ Turn–Off Delay Time			70	140	
$t_f$ Fall Time			70	140	
<b>SOURCE – DRAIN DIODE CHARACTERISTICS</b>					
$I_S$ Continuous Source Current*	Modified MOSFET Symbol showing the integral reverse P-N Junction rectifier.			-6.5	A
$I_{SM}$ Pulse Source Current [(Body Diode) <sup>2</sup> ]				-25	
$V_{SD}$ Diode Forward Voltage <sup>1</sup>	$V_{GS} = 0$ $I_S = -6.5A$ $T_J = 25^{\circ}C$			-4.7	V
$t_{rr}$ Reverse Recovery Time	$I_F = -6.5A$ $V_{DD} \leq -50V$			250	ns
$Q_{rr}$ Reverse Recovery Charge	$di_F/dt = 100\text{ A}/\mu s$ $T_J = 25^{\circ}C$		3.0		$\mu C$
$t_{on}$ Forward Turn–On Time			negligible		—

\*JEDEC Registered Value

1 Pulse Test: Pulse Width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$

2 Repetitive Rating: Pulse width limited by max. junction temperature

3  $V_{DD} = 25V$  starting  $T_J = 25^{\circ}C$ ,  $L = 17.25mH$ ,  $R_G = 25\Omega$ , Peak  $I_L = 6.5A$

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.