



**CEM4435A****Electrical Characteristics**  $T_A = 25^\circ\text{C}$  unless otherwise noted

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	$\text{BV}_{\text{DSS}}$	$V_{\text{GS}} = 0\text{V}, I_D = -250\mu\text{A}$	-30			V
Zero Gate Voltage Drain Current	$I_{\text{DSS}}$	$V_{\text{DS}} = -30\text{V}, V_{\text{GS}} = 0\text{V}$			-1	$\mu\text{A}$
Gate Body Leakage Current, Forward	$I_{\text{GSSF}}$	$V_{\text{GS}} = 20\text{V}, V_{\text{DS}} = 0\text{V}$			100	nA
Gate Body Leakage Current, Reverse	$I_{\text{GSSR}}$	$V_{\text{GS}} = -20\text{V}, V_{\text{DS}} = 0\text{V}$			-100	nA
<b>On Characteristics<sup>c</sup></b>						
Gate Threshold Voltage	$V_{\text{GS}(\text{th})}$	$V_{\text{GS}} = V_{\text{DS}}, I_D = -250\mu\text{A}$	-1		-3	V
Static Drain-Source On-Resistance	$R_{\text{DS}(\text{on})}$	$V_{\text{GS}} = -10\text{V}, I_D = -8\text{A}$		17	20	$\text{m}\Omega$
		$V_{\text{GS}} = -4.5\text{V}, I_D = -5\text{A}$		25	33	$\text{m}\Omega$
Forward Transconductance	$g_{\text{FS}}$	$V_{\text{DS}} = -15\text{V}, I_D = -8\text{A}$		13		S
<b>Dynamic Characteristics<sup>d</sup></b>						
Input Capacitance	$C_{\text{iss}}$	$V_{\text{DS}} = -15\text{V}, V_{\text{GS}} = 0\text{V}, f = 1.0 \text{ MHz}$		1690		pF
Output Capacitance	$C_{\text{oss}}$			285		pF
Reverse Transfer Capacitance	$C_{\text{rss}}$			210		pF
<b>Switching Characteristics<sup>d</sup></b>						
Turn-On Delay Time	$t_{\text{d}(\text{on})}$	$V_{\text{DD}} = -10\text{V}, I_D = -1\text{A}, V_{\text{GS}} = -10\text{V}, R_{\text{GEN}} = 6\Omega$		15	30	ns
Turn-On Rise Time	$t_r$			9	18	ns
Turn-Off Delay Time	$t_{\text{d}(\text{off})}$			60	120	ns
Turn-Off Fall Time	$t_f$			20	40	ns
Total Gate Charge	$Q_g$	$V_{\text{DS}} = -15\text{V}, I_D = -7\text{A}, V_{\text{GS}} = -4.5\text{V}$		19	25	nC
Gate-Source Charge	$Q_{\text{gs}}$			5		nC
Gate-Drain Charge	$Q_{\text{gd}}$			7		nC
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Current <sup>b</sup>	$I_S$				-2.1	A
Drain-Source Diode Forward Voltage <sup>c</sup>	$V_{\text{SD}}$	$V_{\text{GS}} = 0\text{V}, I_S = -2.1\text{A}$			-1.2	V

## Notes :

- a.Repetitive Rating : Pulse width limited by maximum junction temperature.
- b.Surface Mounted on FR4 Board,  $t \leq 10 \text{ sec.}$
- c.Pulse Test : Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .
- d.Guaranteed by design, not subject to production testing.





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