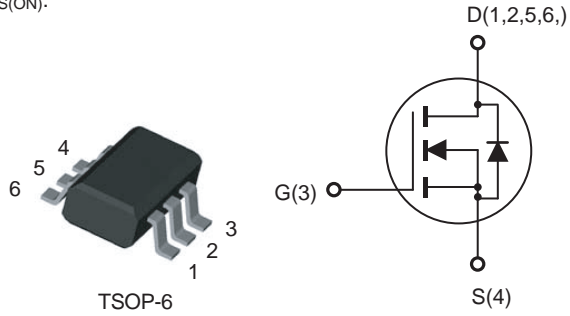


N-Channel Enhancement Mode Field Effect Transistor

PRELIMINARY

FEATURES

- 30V, 6.2A , $R_{DS(ON)} = 33m\Omega$ @ $V_{GS} = 10V$.
 $R_{DS(ON)} = 38m\Omega$ @ $V_{GS} = 4.5V$.
 $R_{DS(ON)} = 55m\Omega$ @ $V_{GS} = 2.5V$.
- High dense cell design for extremely low $R_{DS(ON)}$.
- Rugged and reliable.
- Lead free product is acquired.
- TSOP-6 package.



ABSOLUTE MAXIMUM RATINGS $T_A = 25^\circ C$ unless otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	6.2	A
Drain Current-Pulsed ^a	I_{DM}	25	A
Maximum Power Dissipation	P_D	2.0	W
Operating and Store Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ C$

Thermal Characteristics

Parameter	Symbol	Limit	Units
Thermal Resistance, Junction-to-Ambient ^b	$R_{\theta JA}$	62.5	$^\circ C/W$



CEH2310

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	0.7		1.4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 5.8A$		27	33	$m\Omega$
		$V_{GS} = 4.5V, I_D = 5.0A$		30	38	$m\Omega$
		$V_{GS} = 2.5V, I_D = 2.0A$		40	55	$m\Omega$
Dynamic Characteristics ^d						
Forward Transconductance	g_{FS}	$V_{DS} = 5V, I_D = 5.0A$		5		S
Input Capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1.0\text{ MHz}$		830		pF
Output Capacitance	C_{oss}			110		pF
Reverse Transfer Capacitance	C_{rss}			85		pF
Switching Characteristics ^d						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 15V, I_D = 5.8A, V_{GS} = 10V, R_{GEN} = 3\Omega$		4	10	ns
Turn-On Rise Time	t_r			6	15	ns
Turn-Off Delay Time	$t_{d(off)}$			28	50	ns
Turn-Off Fall Time	t_f			4	10	ns
Total Gate Charge	Q_g	$V_{DS} = 15V, I_D = 5.8A, V_{GS} = 4.5V$		10	13	nC
Gate-Source Charge	Q_{gs}			1.8		nC
Gate-Drain Charge	Q_{gd}			3.3		nC
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Current ^b	I_S				3.0	A
Drain-Source Diode Forward Voltage ^c	V_{SD}	$V_{GS} = 0V, I_S = 1.0A$			1.0	V
Notes : a.Repetitive Rating : Pulse width limited by maximum junction temperature. b.Surface Mounted on FR4 Board, $t \leq 5\text{ sec}$. c.Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$. d.Guaranteed by design, not subject to production testing.						