CEPF630/CEBF630

March 1998

N-Channel Enhancement Mode Field Effect Transistor

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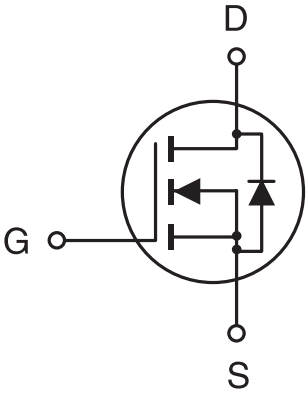
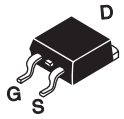
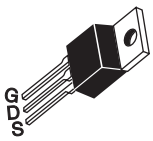
FEATURES

- 200V , 10A , $R_{DS(ON)}$=400mΩ @VGS=10V.
- Super high dense cell design for extremely low $R_{DS(ON)}$.
- High power and current handling capability.
- TO-220 & TO-263 package.





CEB SERIES
TO-263(DD-PAK)



CEP SERIES
TO-220

ABSOLUTE MAXIMUM RATINGS (Tc=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	10	A
-Pulsed	I_{DM}	40	A
Drain-Source Diode Forward Current	I_S	10	A
Maximum Power Dissipation @Tc=25°C	P_D	75	W
Derate above 25°C		0.6	W/°C
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to 150	°C

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.5	°C/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	62.5	°C/W

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ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	200			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=160V, V_{GS}=0V			25	μA
Gate-Body Leakage	I_{GSS}	V_{GS}=±20V, V_{DS}=0V			±100	nA
ON CHARACTERISTICS[a]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	2	2.9	4	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=5A		265	400	mΩ
On-State Drain Current	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=10V	10			A
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=5A	3	6		S
DYNAMIC CHARACTERISTICS[b]						
Input Capacitance	C_{ISS}	V_{DS}=25V, V_{GS}=0V f=1.0MHz		646	800	pF
Output Capacitance	C_{OSS}			105	140	pF
Reverse Transfer Capacitance	C_{RSS}			36	50	pF
SWITCHING CHARACTERISTICS[b]						
Turn-On Delay Time	$t_{D(ON)}$	V_{DD}=100V, I_D=5A, V_{GS}=10V, R_{GEN}=50Ω		50	60	ns
Rise Time	t_r			80	120	ns
Turn-Off Delay Time	$t_{D(OFF)}$			55	80	ns
Fall Time	t_f			40	50	ns
Total Gate Charge	Q_g	V_{DS}=160V, I_D=5.9A, V_{GS}=10V		25	60	nC
Gate-Source Charge	Q_{gs}			5		nC
Gate-Drain Charge	Q_{gd}			7		nC