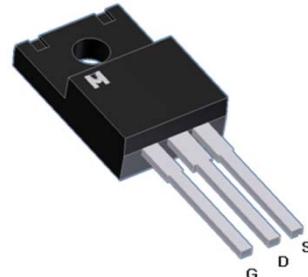


N-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV _{DSS}	100V
R _{DSON} (MAX.)	25mΩ
I _D	30A



UIS, R_G 100% Tested

Pb-Free Lead Plating & Halogen Free



ABSOLUTE MAXIMUM RATINGS (T_C = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V _{GS}	±30	V
Continuous Drain Current	T _C = 25 °C	I _D	30	A
	T _C = 100 °C		21	
Pulsed Drain Current ¹		I _{DM}	120	
Avalanche Current		I _{AS}	30	
Avalanche Energy	L = 0.1mH, ID=30A, RG=25Ω	E _{AS}	45	mJ
Repetitive Avalanche Energy ²	L = 0.05mH	E _{AR}	22.5	
Power Dissipation	T _C = 25 °C	P _D	40	W
	T _C = 100 °C		16	
Operating Junction & Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case	R _{θJC}	3.1	3.1	°C / W
Junction-to-Ambient	R _{θJA}		62.5	

¹Pulse width limited by maximum junction temperature.

²Duty cycle ≤ 1%

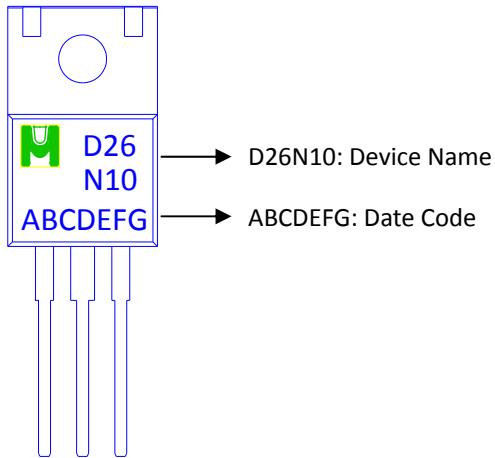
ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(\text{BR})\text{DSS}}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	100			V
Gate Threshold Voltage	$V_{GS(\text{th})}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2.0	3.0	4.0	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 30V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 70V, V_{GS} = 0V, T_J = 125^\circ\text{C}$			25	
On-State Drain Current ¹	$I_{D(\text{ON})}$	$V_{DS} = 10V, V_{GS} = 10V$	30			A
Drain-Source On-State Resistance ¹	$R_{DS(\text{ON})}$	$V_{GS} = 10V, I_D = 30A$		21.5	25	$\text{m}\Omega$
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 30A$		38		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1\text{MHz}$		1575		pF
Output Capacitance	C_{oss}			216		
Reverse Transfer Capacitance	C_{rss}			47		
Gate Resistance	R_g	$V_{GS} = 15\text{mV}, V_{DS} = 0V, f = 1\text{MHz}$		1.5		Ω
Total Gate Charge ^{1,2}	Q_g	$V_{DS} = 80V, V_{GS} = 10V, I_D = 30A$		20.8		nC
Gate-Source Charge ^{1,2}	Q_{gs}			8.5		
Gate-Drain Charge ^{1,2}	Q_{gd}			6.8		
Turn-On Delay Time ^{1,2}	$t_{d(\text{on})}$	$V_{DS} = 50V, I_D = 1A, V_{GS} = 10V, R_{GS} = 6\Omega$		20		nS
Rise Time ^{1,2}	t_r			80		
Turn-Off Delay Time ^{1,2}	$t_{d(\text{off})}$			90		
Fall Time ^{1,2}	t_f			100		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_c = 25^\circ\text{C}$)						
Continuous Current	I_S				30	A
Pulsed Current ³	I_{SM}				120	
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	t_{rr}	$I_F = 25A, dI_F/dt = 100A/\mu\text{s}$			120	nS
Reverse Recovery Charge	Q_{rr}				380	

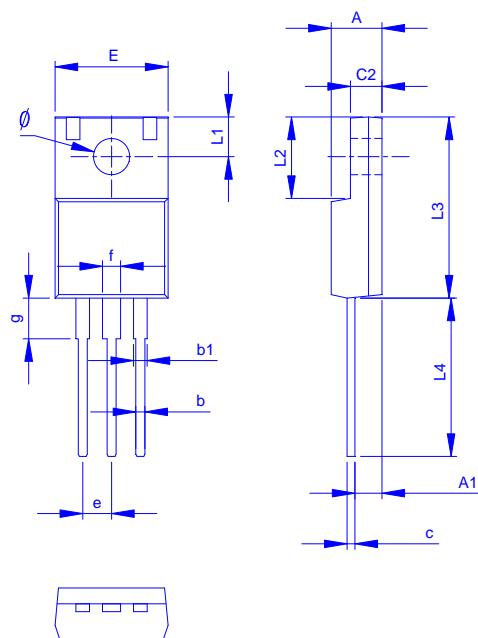
¹Pulse test : Pulse Width $\leq 300\ \mu\text{sec}$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.³Pulse width limited by maximum junction temperature.

Ordering & Marking Information:

Device Name: EMD26N10F for TO-220F



Outline Drawing



Dimension in mm

Dimension	A	A1	b	b1	c	c2	E	L1	L2	L3	L4	ø	e	f	g
Min.	4.20	1.95	0.50	0.90	0.45	2.34	9.70	2.70	6.48	14.80	12.68	3.00	2.35	1.18	3.13
Max.	4.90	2.96	1.05	1.50	0.80	3.20	10.66	3.80	7.50	16.30	14.50	3.50	2.75	1.90	4.00

TYPICAL CHARACTERISTICS

