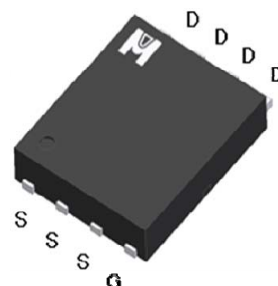
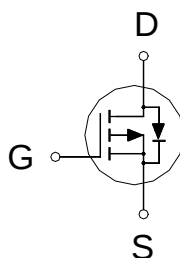


P-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV_{DSS}	-30V
$R_{DS(on)} (MAX.)$	8m Ω
I_D	-70A



UIS, Rg 100% Tested

Pb-Free Lead Plating & Halogen Free



ABSOLUTE MAXIMUM RATINGS ($T_C = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V_{GS}	± 25	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	-70	A
	$T_C = 100\text{ }^{\circ}\text{C}$		-50	
Pulsed Drain Current ¹		I_{DM}	-150	
Avalanche Current		I_{AS}	-50	
Avalanche Energy	$L = 0.1\text{mH}, I_D = -50\text{A}, R_G = 25\text{ }\Omega$	E_{AS}	125	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	50	W
	$T_C = 100\text{ }^{\circ}\text{C}$		20	
Operating Junction & Storage Temperature Range		T_{j}, T_{stg}	-55 to 150	$^{\circ}\text{C}$

100% UIS testing in condition of $V_D = -15\text{V}$, $L = 0.1\text{mH}$, $V_G = -10\text{V}$, $I_L = -40\text{A}$, Rated $V_{DS} = -30\text{V}$ P-CH

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case	$R_{\theta JC}$		2.5	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient ³	$R_{\theta JA}$		50	

¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.5	-2.5	-3.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ }^{\circ}C$			-10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = -5V, V_{GS} = -10V$	-70			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -15A$		7	8	mΩ
		$V_{GS} = -7V, I_D = -12A$		8.5	12	
Forward Transconductance ¹	g_{fs}	$V_{DS} = -5V, I_D = -15A$		24		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		2788		pF
Output Capacitance	C_{oss}			412		
Reverse Transfer Capacitance	C_{rss}			362		
Gate Resistance	R_g	$V_{GS} = 15mV, V_{DS} = 0V, f = 1MHz$		3.3		Ω
Total Gate Charge ^{1,2}	Q_g	$V_{DS} = -15V, V_{GS} = -10V,$ $I_D = -15A$		47.3		nC
Gate-Source Charge ^{1,2}	Q_{gs}			6		
Gate-Drain Charge ^{1,2}	Q_{gd}			9.1		
Turn-On Delay Time ^{1,2}	$t_{d(on)}$	$V_{DS} = -15V,$ $I_D = -1A, V_{GS} = -10V, R_{GS} = 2.7\Omega$		18		nS
Rise Time ^{1,2}	t_r			26		
Turn-Off Delay Time ^{1,2}	$t_{d(off)}$			22		
Fall Time ^{1,2}	t_f			75		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _c = 25 °C)						
Continuous Current	I_S				-70	A
Pulsed Current ³	I_{SM}				-150	
Forward Voltage ¹	V_{SD}	$I_F = -15A, V_{GS} = 0V$			-1.2	V
Reverse Recovery Time	t_{rr}	$I_F = I_S, di_F/dt = 100A / \mu S$		50		nS
Reverse Recovery Charge	Q_{rr}			60		nC

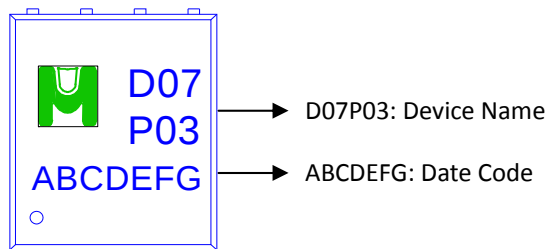
¹Pulse test : Pulse Width $\leq 300\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.

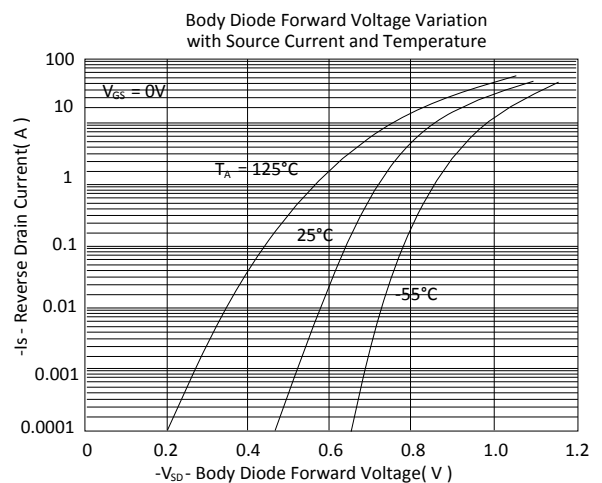
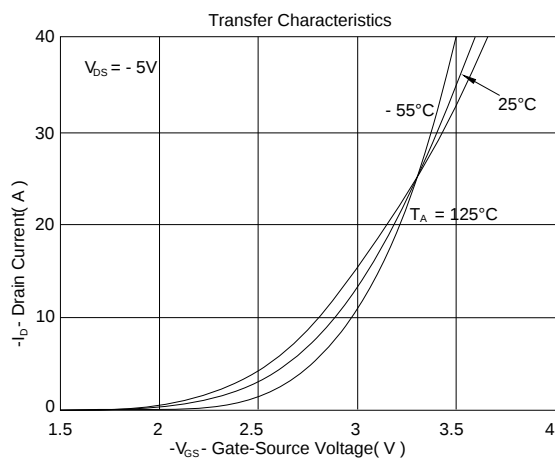
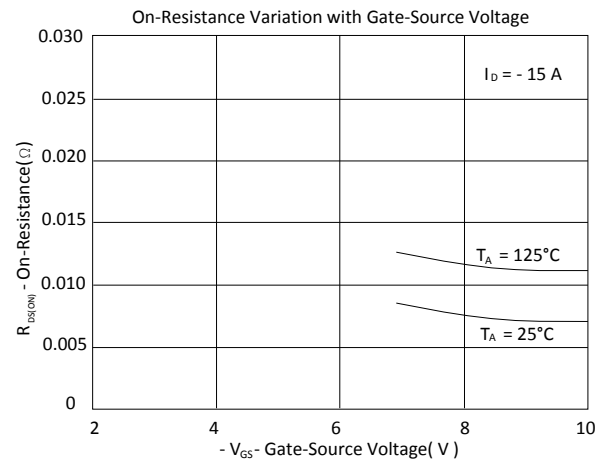
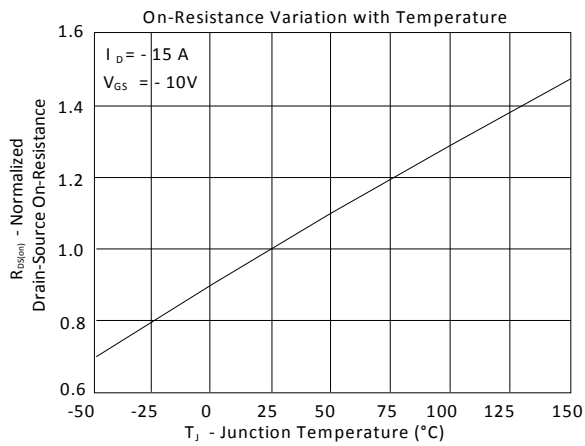
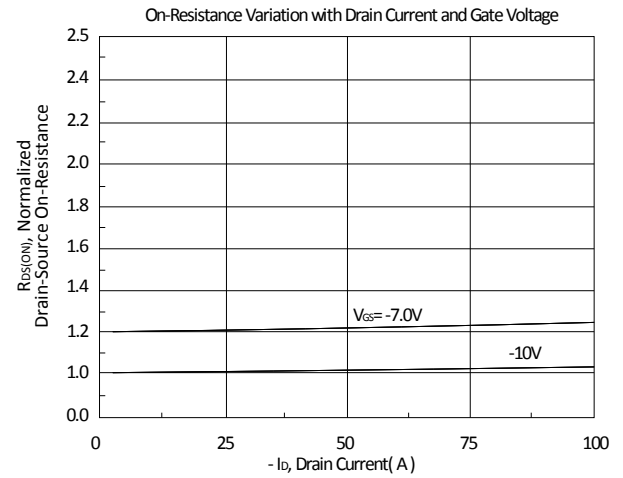
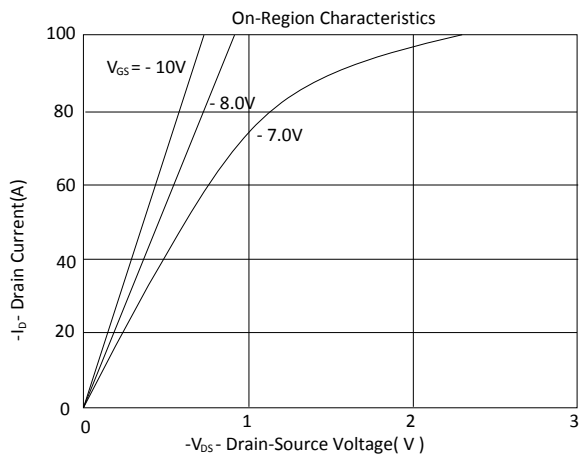
²Independent of operating temperature.

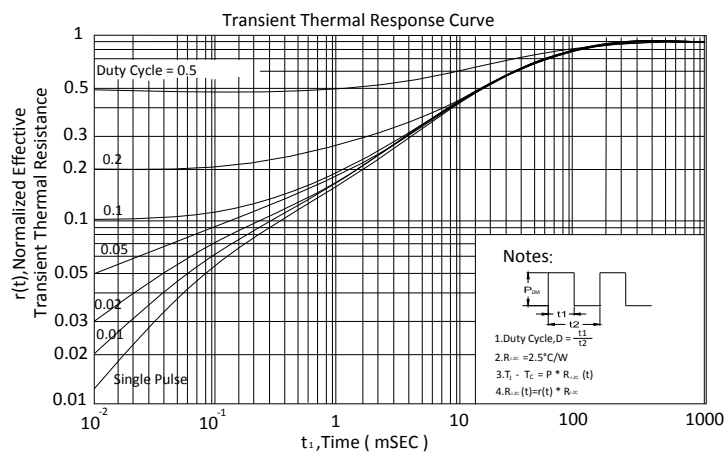
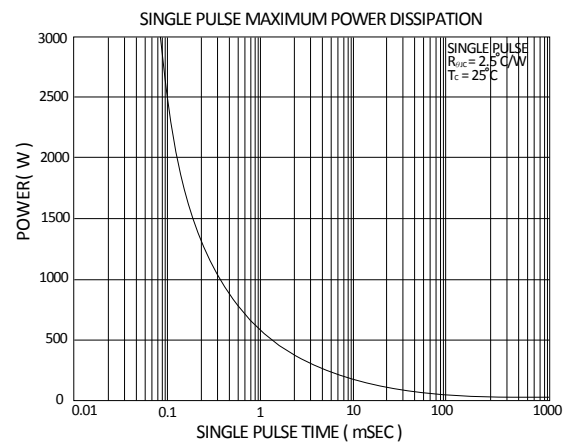
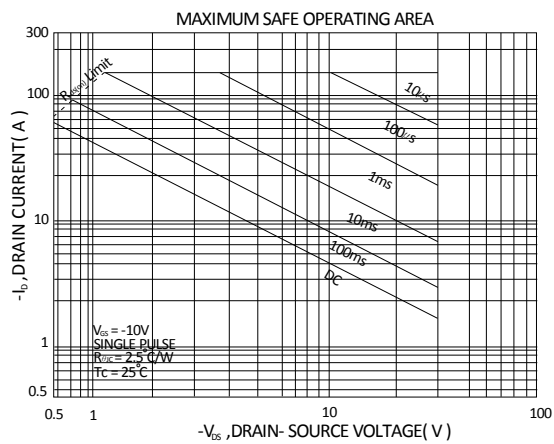
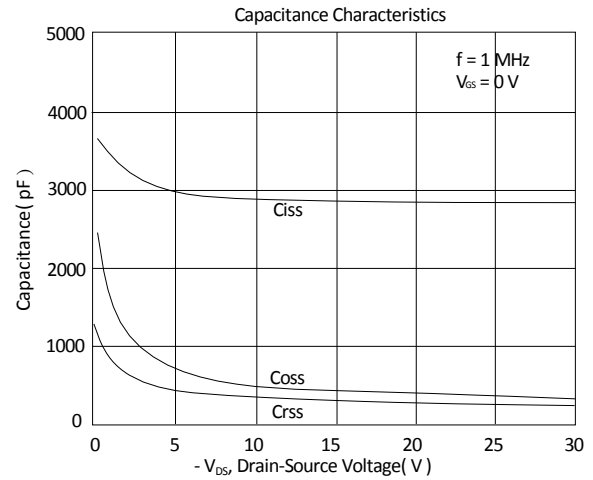
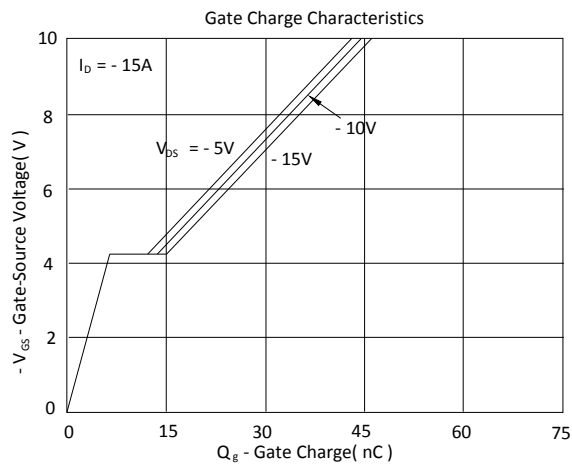
³Pulse width limited by maximum junction temperature.

Ordering & Marking Information:

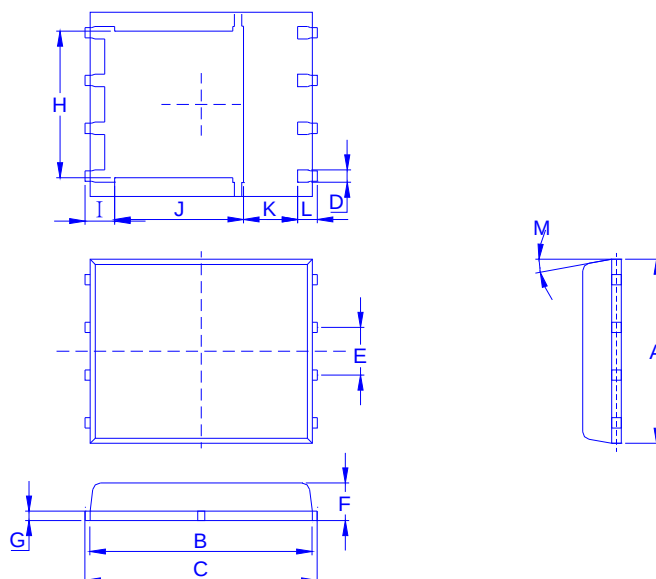
Device Name: EMD07P03H for EDFN 5 x 6







Outline Drawing



Dimension in mm

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M
Min.	4.80	5.50	5.90	0.3		0.85	0.15	3.67	0.41	3.00	0.94	0.45	0°
Typ.					1.27								
Max.	5.30	5.90	6.15	0.51		1.20	0.30	4.54	0.85	3.92	1.7	0.71	12°

Recommended minimum pads

