

P-Channel Logic Level Enhancement Mode Field Effect Transistor

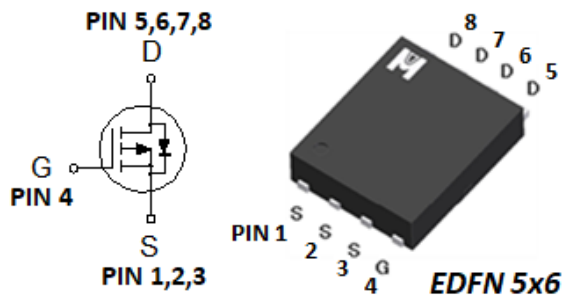
Product Summary:

BV_{DSS}	-30V
$R_{DS(on) (MAX.) @V_{GS}=-10V}$	7.5m Ω
$R_{DS(on) (MAX.) @V_{GS}=-4.5V}$	11.5m Ω
$I_D @ T_C=25^\circ C$	-65A

Single P Channel MOSFET

UIS, Rg 100% Tested

Pb-Free Lead Plating & Halogen Free



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V_{GS}	± 25	V
Continuous Drain Current	$T_C = 25^\circ C$	I_D	-65	A
	$T_A = 25^\circ C (t \leq 10s)$		-23	
	$T_A = 25^\circ C$ °C(Steady-State)		-14	
	$T_C = 100^\circ C$		-41	
Pulsed Drain Current ¹		I_{DM}	-208	
Avalanche Current		I_{AS}	-50	
Avalanche Energy	$L = 0.1mH, I_{AS} = -50A, R_G = 25\Omega$	E_{AS}	125	mJ
Repetitive Avalanche Energy ²	$L = 0.05mH$	E_{AR}	62.5	
Power Dissipation	$T_C = 25^\circ C$	P_D	50	W
	$T_C = 100^\circ C$		20	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

100% UIS testing in condition of $V_D = -15V, L = 0.1mH, V_G = -10V, I_L = -35A, \text{Rated } V_{DS} = -30V \text{ P-CH}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE		SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case		$R_{\theta JC}$		2.5	°C / W
Junction-to-Ambient ³	$t \leq 10s$	$R_{\theta JA}$		20	
Junction-to-Ambient ³	Steady-State	$R_{\theta JA}$		50	



¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

³50°C / W when mounted on a 1 in² pad of 2 oz copper.



ELECTRICAL CHARACTERISTICS (T_J = 25 °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 = -250μA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.5	-3.0	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±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 °C			-10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = -5V, V _{GS} = -10V	-65			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -10V, I _D = -20A		6.6	7.5	mΩ
		V _{GS} = -4.5V, I _D = -15A		8.2	11.5	
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		4294		pF
Output Capacitance	C _{oss}			634		
Reverse Transfer Capacitance	C _{rss}			566		
Gate Resistance	R _g	V _{GS} = 15mV, V _{DS} = 0V, f = 1MHz		3.0		Ω
Total Gate Charge ^{1,2}	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -15A		62.4		nC
Gate-Source Charge ^{1,2}	Q _{gs}			8.5		
Gate-Drain Charge ^{1,2}	Q _{gd}			13		
Turn-On Delay Time ^{1,2}	t _{d(on)}	V _{DS} = -15V, I _D = -1A, V _{GS} = -10V, R _{GS} = 2.7Ω		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						
Continuous Current	I _s				-65	A
Pulsed Current ³	I _{SM}				-208	
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 / μS		55		nS
Reverse Recovery Charge	Q _{rr}				62	

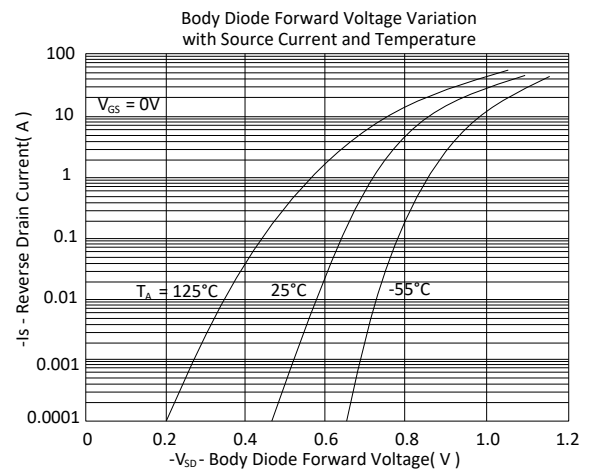
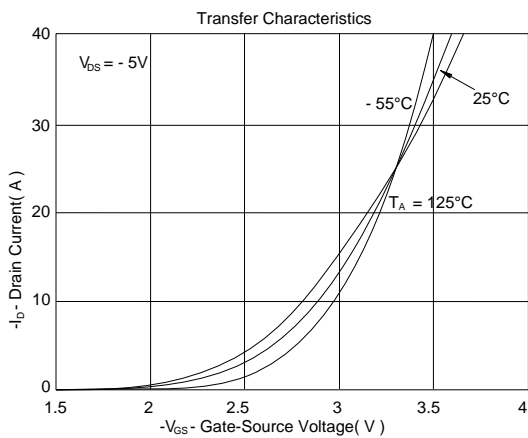
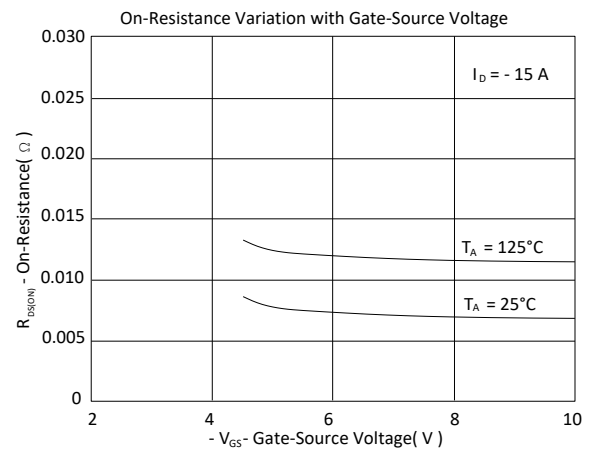
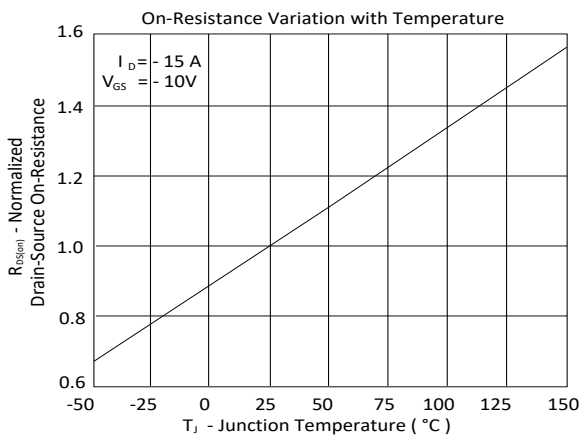
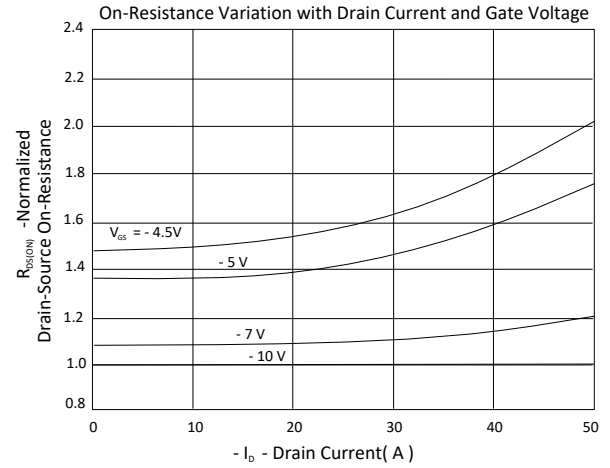
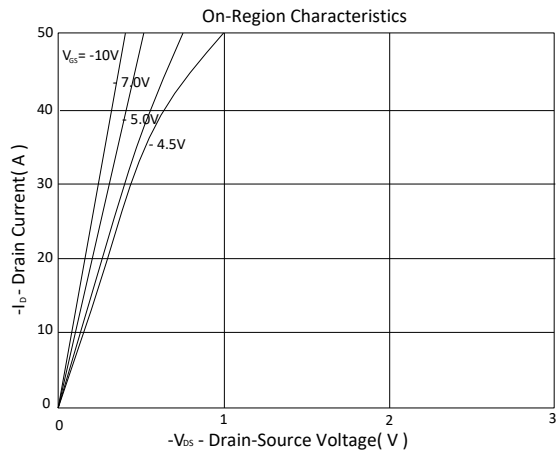


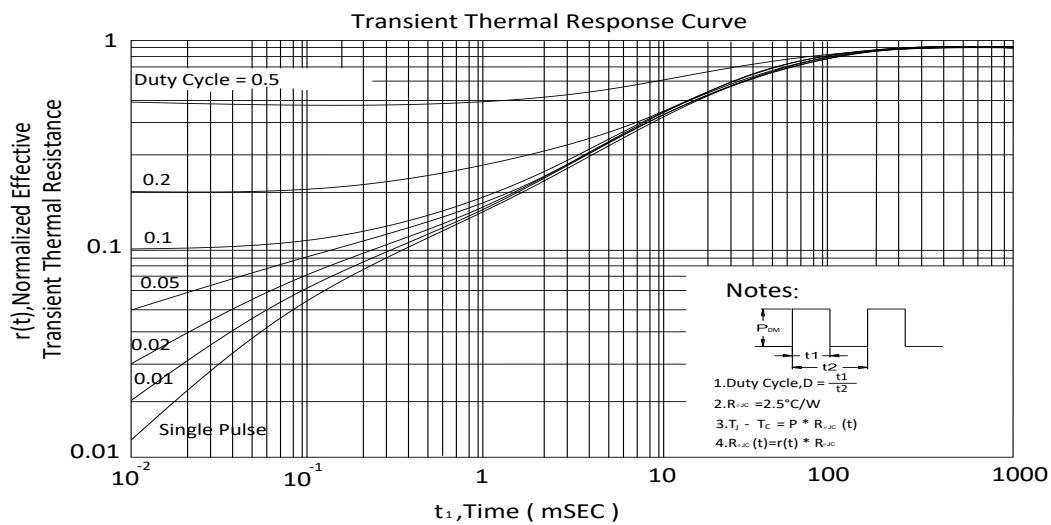
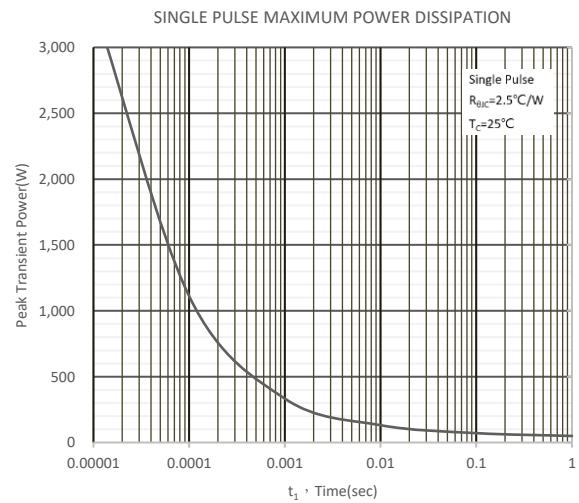
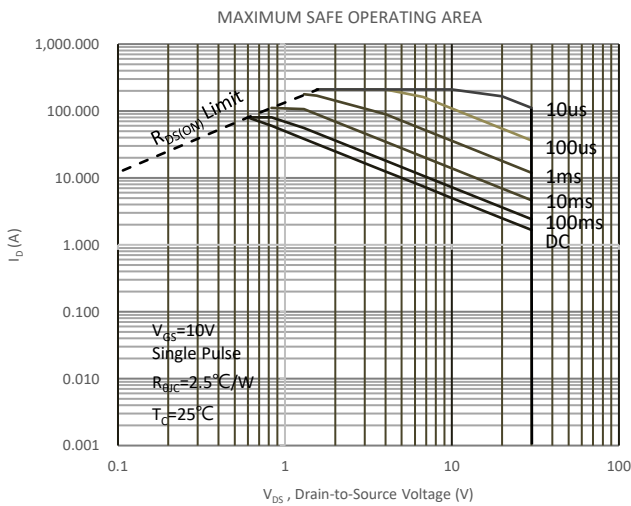
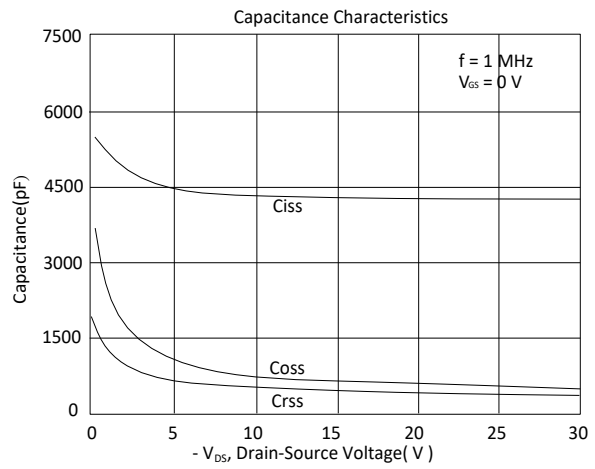
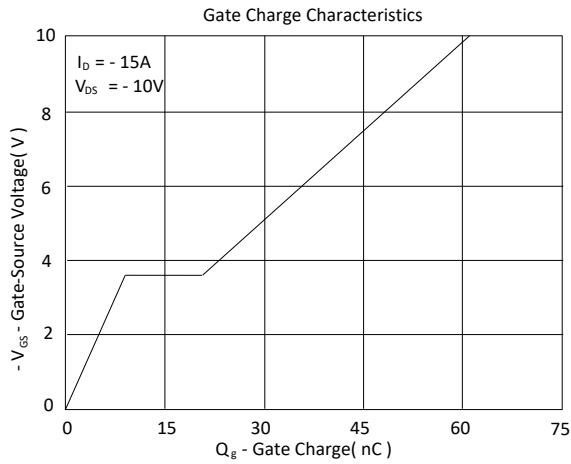
¹Pulse test : Pulse Width $\leq 300 \mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

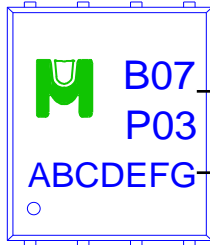
EMC will review datasheet by quarter, and update new version.





Ordering & Marking Information:

Device Name: EMB07P03H for EDFN 5 x 6



B07P03: Device Name

ABCDEFG: Date Code

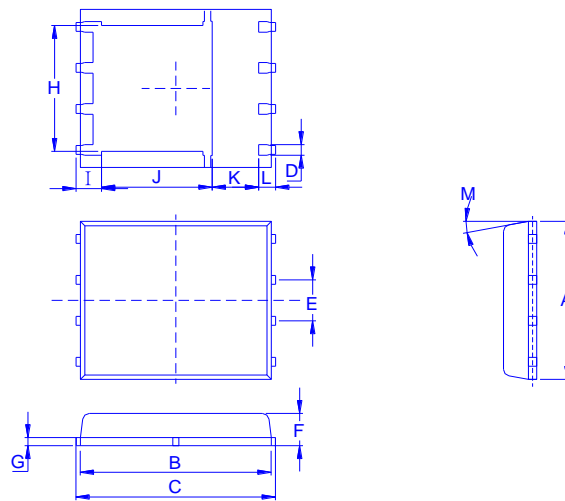
A: Assembly House

B: Year(A:2008 B:2009 C:2010....)

C: Month(A:01 B:02 C:03 D:04 E:05 F:06 G:07 H:08 I:09 J:10 K:11 L:12)

DEFG: Serial No.

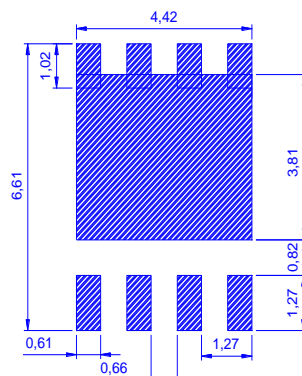
Outline Drawing



Dimension in mm

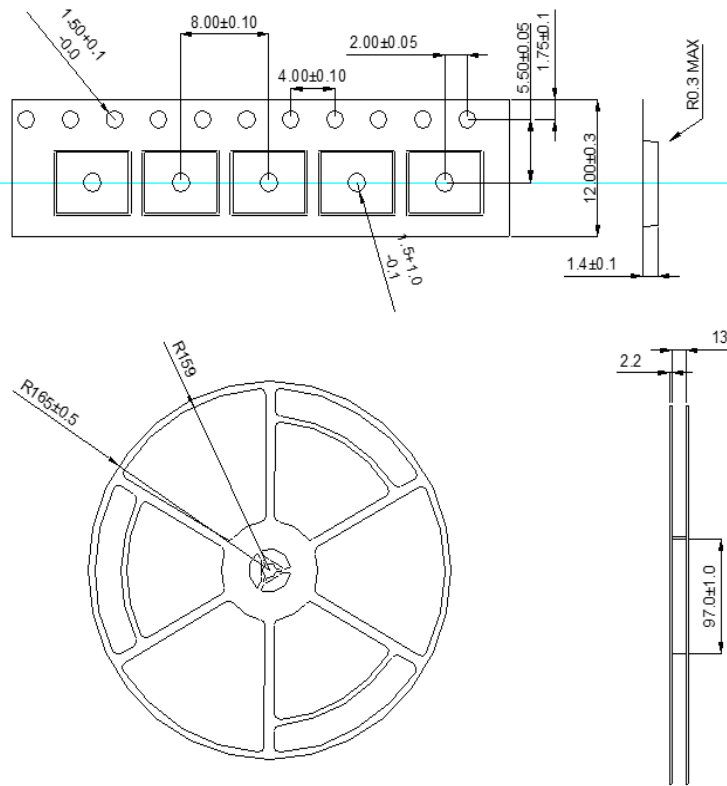
Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M
Min	4.8	5.55	5.9	0.3	1.17	0.85	0.15	3.61	0.38	3.18	1	0.38	0°
Typ.	4.9	5.7	6	0.4	1.27	0.95	0.2	3.87	0.4	3.44	1.195	0.4	
Max	5.4	5.85	6.15	0.51	1.37	1.17	0.34	4.31	0.711	3.78	1.39	0.71	12°

Recommended minimum pads





◆ Tape&Reel Information:2500pcs/Reel
(Dimension in millimeter)



產品別	EDN5X6
Reel 尺寸	13"
編帶方式	FEED DIRECTION
前空格	25
後空格	50
裝箱數	
滿捲數量	2.5K
捲/內盒比	01:01
內盒滿箱數	2.5K
內/外箱比	10:01
外箱滿箱數	25K