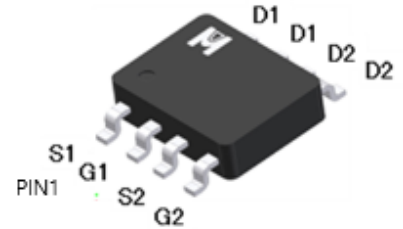
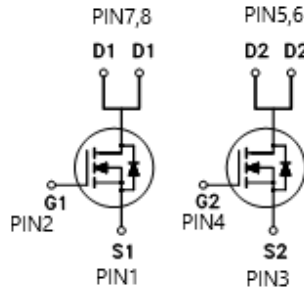


Dual N-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV _{DSS}	40V
R _{DS(on)} (MAX.)	22mΩ
I _D	8A



Dual N Channel MOSFET

UIS, R_g 100% Tested

Pb-Free Lead Plating & Halogen Free



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	T _A = 25 °C	I _D	8	A
	T _A = 70 °C		6	
Pulsed Drain Current ¹		I _{DM}	32	
Avalanche Current		I _{AS}	28	
Avalanche Energy	L = 0.1mH	E _{AS}	39.2	mJ
Repetitive Avalanche Energy ²	L = 0.05mH	E _{AR}	19.6	
Power Dissipation	T _A = 25 °C	P _D	2.0	W
	T _A = 70 °C		1.3	
Operating Junction & Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C

100% UIS testing in condition of V_D=20V, L=0.1mH, V_G=10V, I_L=8A, Rated V_{DS}=40V N-CH

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case	R _{θJC}		25	°C / W
Junction-to-Ambient ³	R _{θJA}		62.5	

¹Pulse width limited by maximum junction temperature.

²Duty cycle ≤ 1%

³62.5°C / W when mounted on a 1 in² pad of 2 oz copper.



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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	40			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0	1.7	3.0	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 32V, V_{GS} = 0V$			1	μA
		$V_{DS} = 30V, V_{GS} = 0V, T_J = 125\text{ }^\circ\text{C}$			25	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	8			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 8A$		20	22	$m\Omega$
		$V_{GS} = 4.5V, I_D = 5A$		30	37	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 8A$		20		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 20V, f = 1MHz$		536		pF
Output Capacitance	C_{oss}			83		
Reverse Transfer Capacitance	C_{rss}			66		
Gate Resistance	R_g	$V_{GS} = 15mV, V_{DS} = 0V, f = 1MHz$		1.6		Ω
Total Gate Charge ^{1,2}	$Q_g(V_{GS}=10V)$	$V_{DS} = 20V, V_{GS} = 10V, I_D = 8A$		14.5		nC
	$Q_g(V_{GS}=4.5V)$			8		
Gate-Source Charge ^{1,2}	Q_{gs}			2.1		
Gate-Drain Charge ^{1,2}	Q_{gd}			4.3		
Turn-On Delay Time ^{1,2}	$t_{d(on)}$		$V_{DS} = 20V, V_{GS} = 10V, I_D = 1A, R_g = 6\Omega$		5	
Rise Time ^{1,2}	t_r			10		
Turn-Off Delay Time ^{1,2}	$t_{d(off)}$			15		
Fall Time ^{1,2}	t_f			12		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_C = 25\text{ }^\circ\text{C}$)						
Continuous Current	I_S				2.3	A
Pulsed Current ³	I_{SM}				9.2	
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	t_{rr}	$I_F = I_S=8A, dI_F/dt = 100A / \mu S$		20		nS
Peak Reverse Recovery Current	$I_{RM(REC)}$			0.22		A
Reverse Recovery Charge	Q_{rr}			2		nC



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

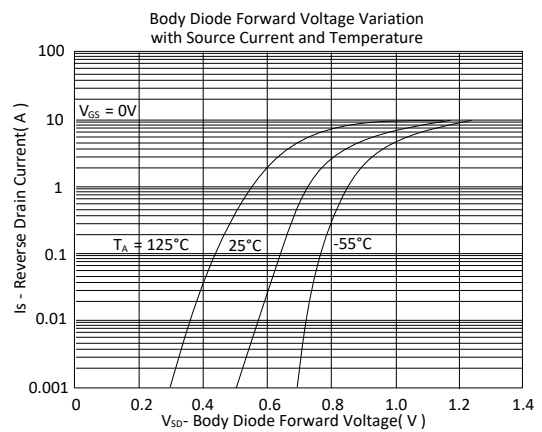
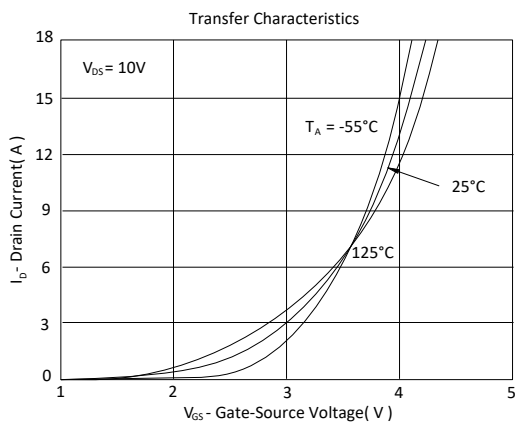
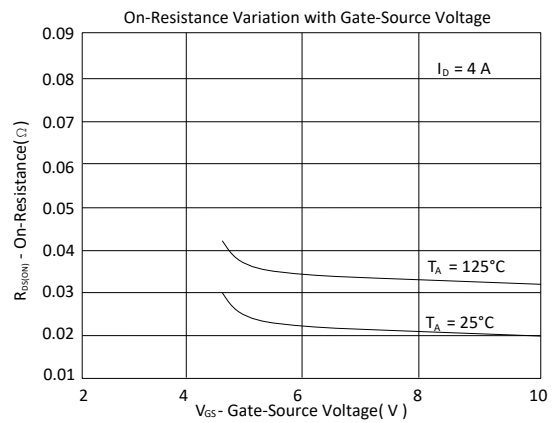
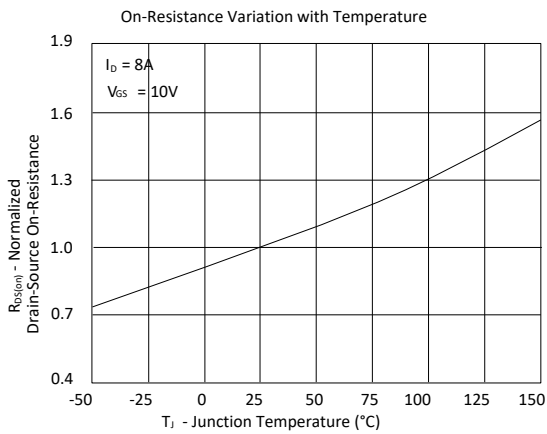
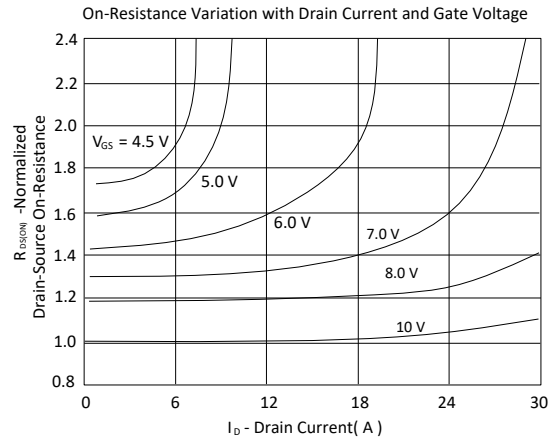
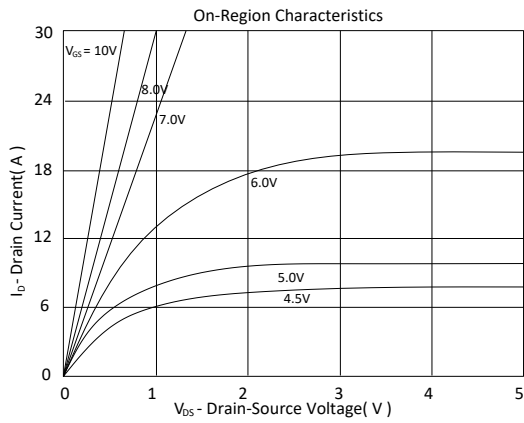
²Independent of operating temperature.

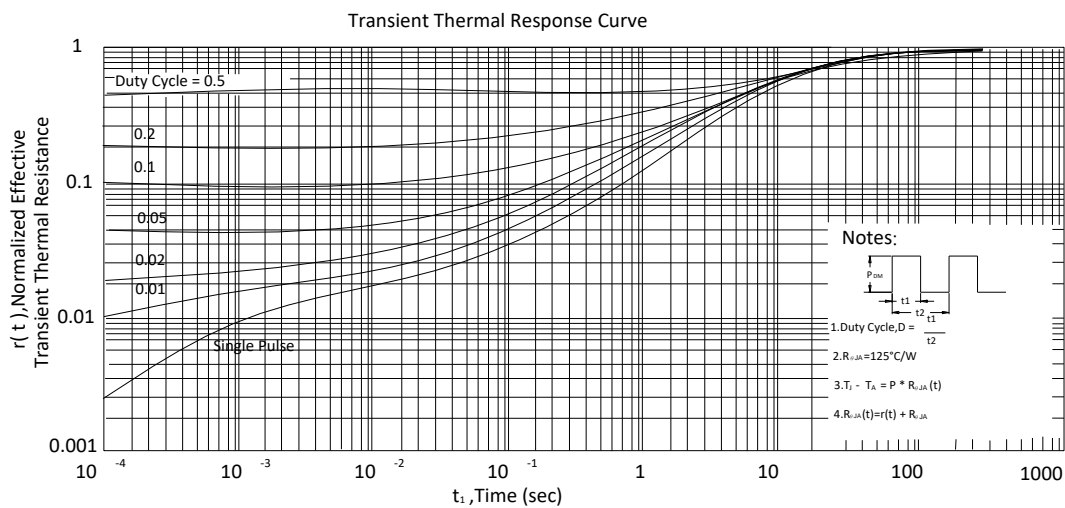
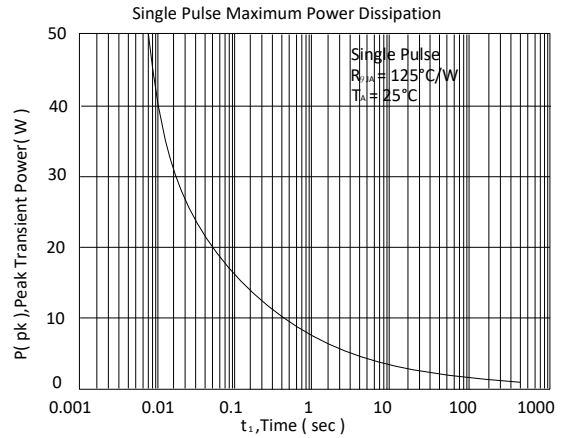
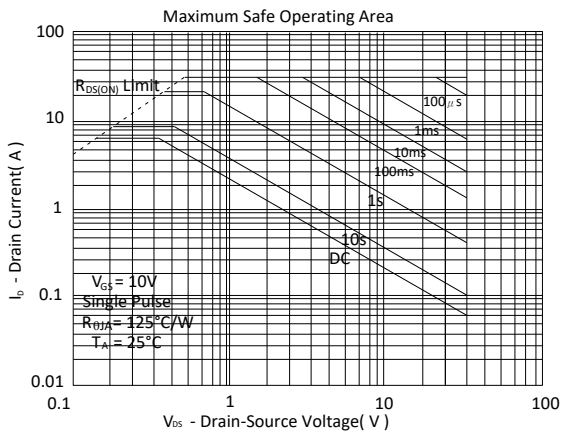
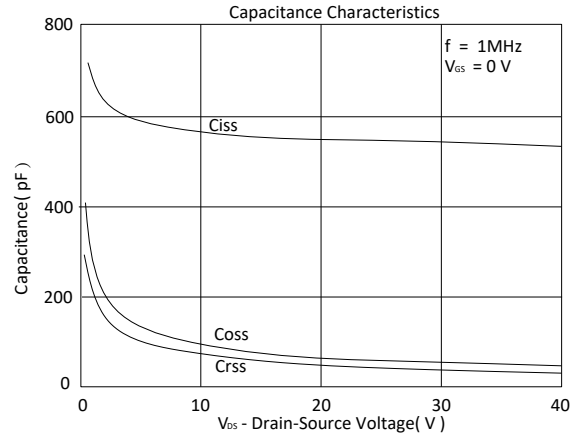
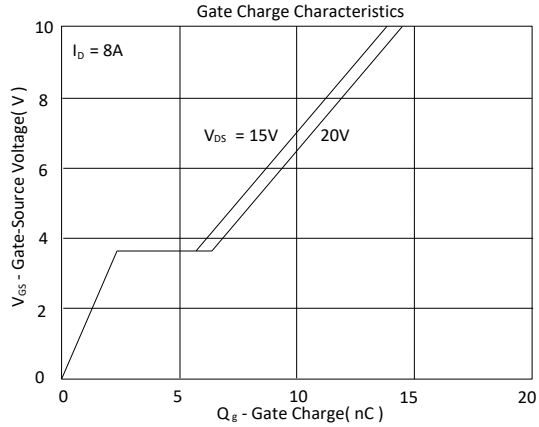
³Pulse width limited by maximum junction temperature.

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



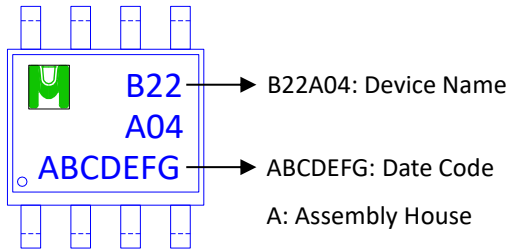
TYPICAL CHARACTERISTICS





Ordering & Marking Information:

Device Name: EMB22A04G for SOP-8



B22A04: Device Name

ABCDEFGH: Date Code

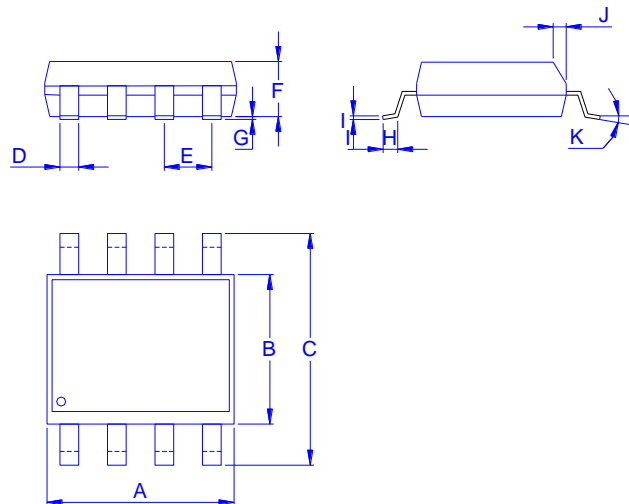
A: Assembly House

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.

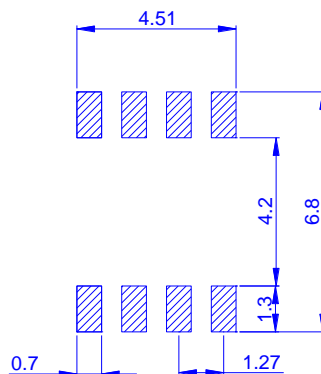
Outline Drawing



Dimension in mm

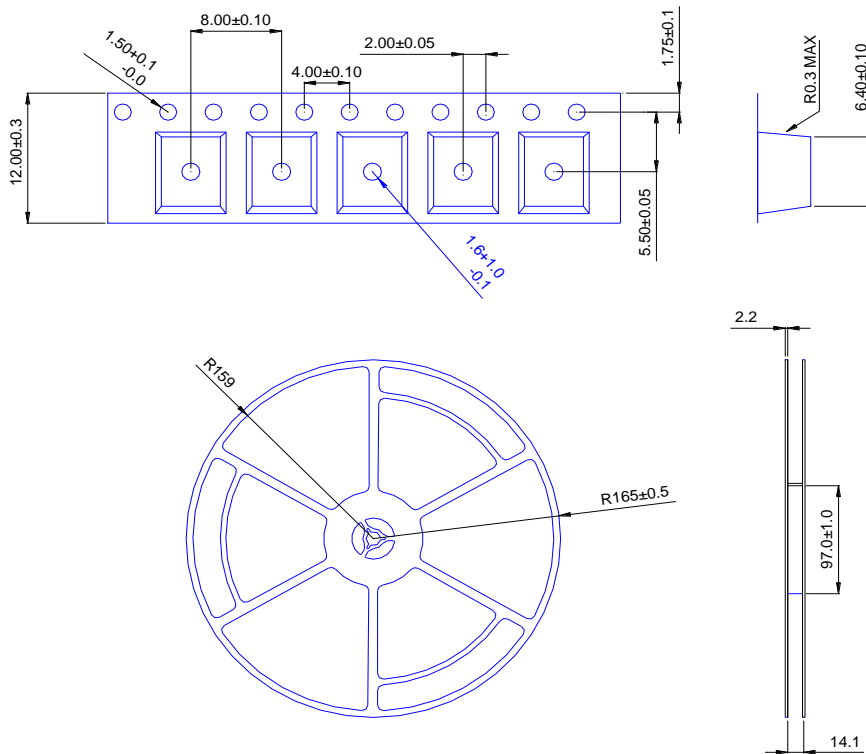
Dimension	A	B	C	D	E	F	G	H	I	J	K
Min.	4.70	3.80	5.80	0.31		1.35	0.01	0.40	0.10	0.25	0°
Typ.	4.90	3.90	6.00	0.41	1.27	1.55	0.18	0.60	0.20	0.30	
Max.	5.10	4.00	6.20	0.51		1.75	0.25	1.27	0.25	0.50	8°


Footprint





Tape & Reel Information: 2500pcs/Reel



產品別	SOP-8
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	1 : 1
內盒滿箱數	2.5K
內/外箱比	10 : 1
外箱滿箱數	25K