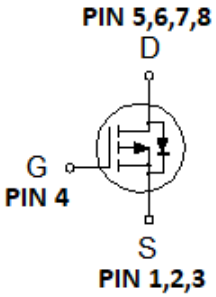
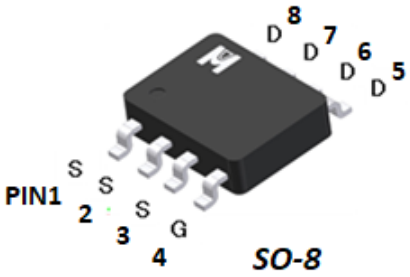
P-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

	P-CH
BV_{DSS}	-100V
$R_{DSON\ (MAX.)}$@V_{GS}=10V	120mΩ
I_D @T_A=25°C	-3.4A





Single P Channel MOSFET

Pb-Free Lead Plating & Halogen Free

ABSOLUTE MAXIMUM RATINGS (T_A = 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	-3.4	A
	T_A = 70 °C		-2.7	
Pulsed Drain Current[1]		I_{DM}	-13.6	
Power Dissipation	T_A = 25 °C	P_D	2.5	W
	T_A = 70 °C		1.6	
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	$R_{\theta JC}$		25	°C / W
Junction-to-Ambient[3]	$R_{\theta JA}$		50	

[1]Pulse width limited by maximum junction temperature.

[2]Duty cycle ≤ 1%

[3]50°C / W when mounted on a 1 in^2 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	-100			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-2.0	-3.0	-4.0	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V			±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 °C			-10	
On-State Drain Current[1]	$I_{D(ON)}$	V_{DS} = -5V, V_{GS} = -10V	-3.4			A
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = -10V, I_D = -3.4A		105	120	mΩ
Forward Transconductance[1]	g_{fs}	V_{DS} = -5V, I_D = -3.4A		8		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = -25V, f = 1MHz		3520		pF
Output Capacitance	C_{oss}			132		
Reverse Transfer Capacitance	C_{rss}			115		
Gate Resistance	R_g	V_{GS} = 15mV, V_{DS} = 0V, f = 1MHz		5.5		Ω
Total Gate Charge[1,2]	Q_g	V_{DS} = -80V, V_{GS} = 10V, I_D = -3.4A		59		nC
Gate-Source Charge[1,2]	Q_{gs}			14		
Gate-Drain Charge[1,2]	Q_{gd}			11		
Turn-On Delay Time[1,2]	$t_{d(on)}$	V_{DS} = -15V, I_D = -1A, V_{GS} = -10V, R_{GS} = 6Ω		15		nS
Rise Time[1,2]	t_r			45		
Turn-Off Delay Time[1,2]	$t_{d(off)}$			50		
Fall Time[1,2]	t_f			50		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_C = 25 °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, dI_F/dt = 100A / μS		150		nS
Reverse Recovery Charge	Q_{rr}			830		nC

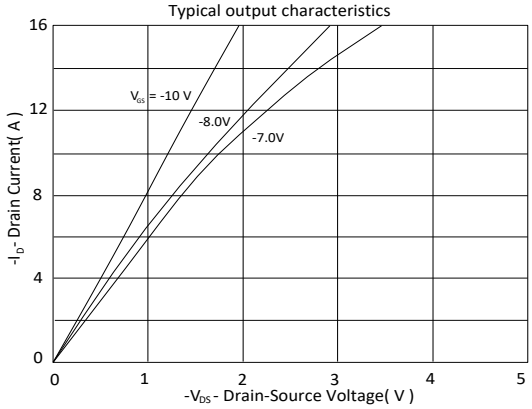
[1]Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

[2]Independent of operating temperature.

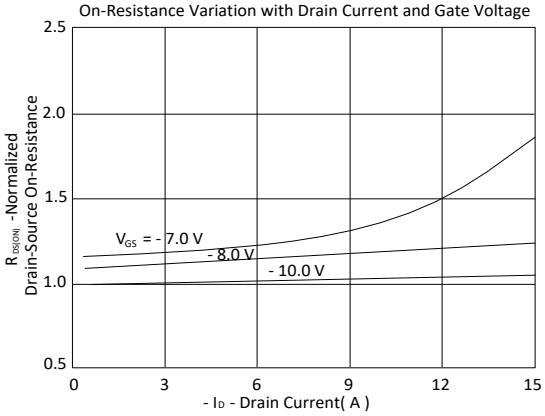
[3]Pulse width limited by maximum junction temperature.

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

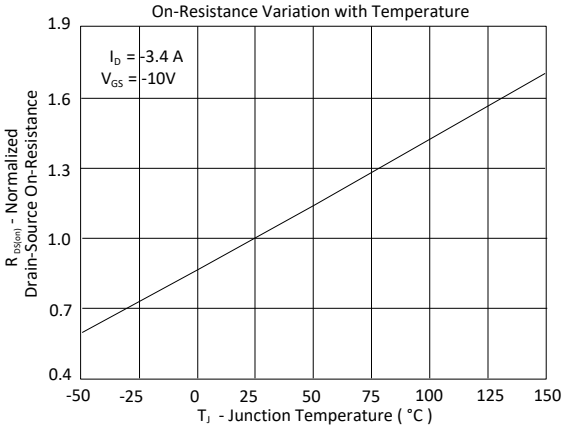
Typical output characteristics



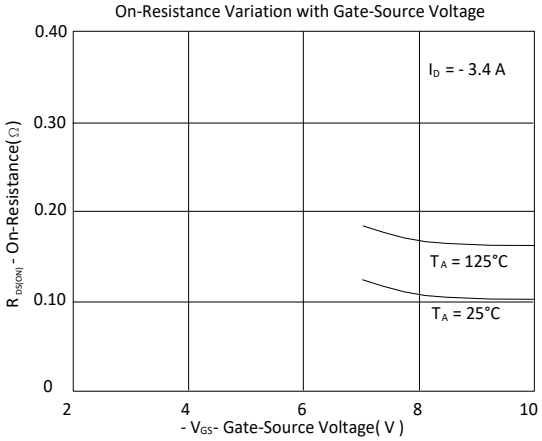
On-Resistance Variation with Drain Current and Gate Voltage



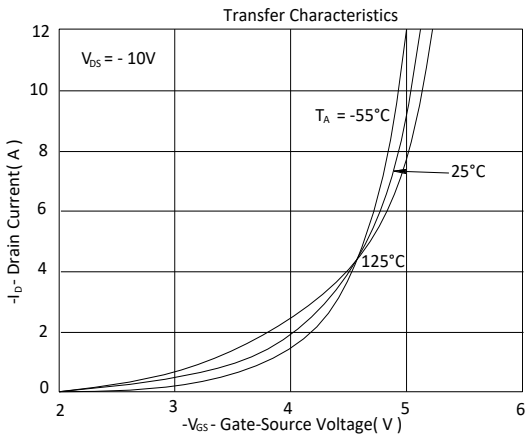
On-Resistance Variation with Temperature



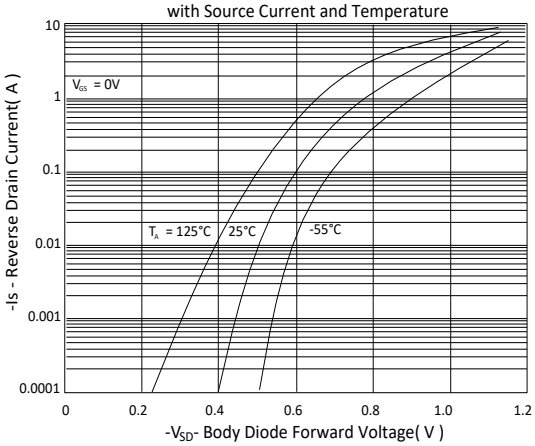
On-Resistance Variation with Gate-Source Voltage



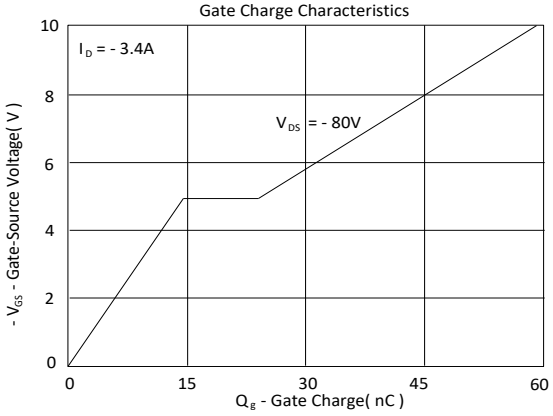
Transfer Characteristics



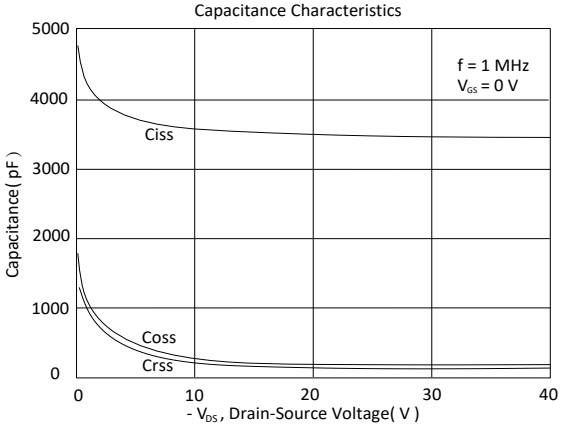
Body Diode Forward Voltage Variation
with Source Current and Temperature



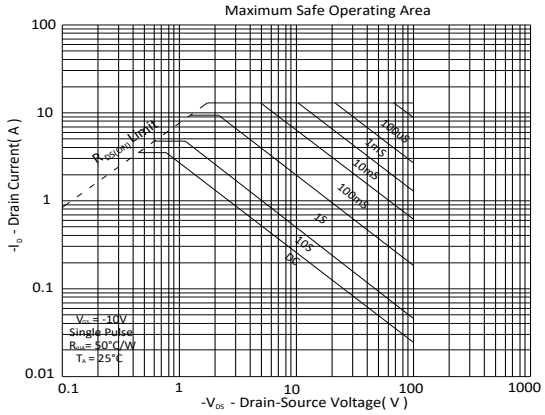
Gate Charge Characteristics



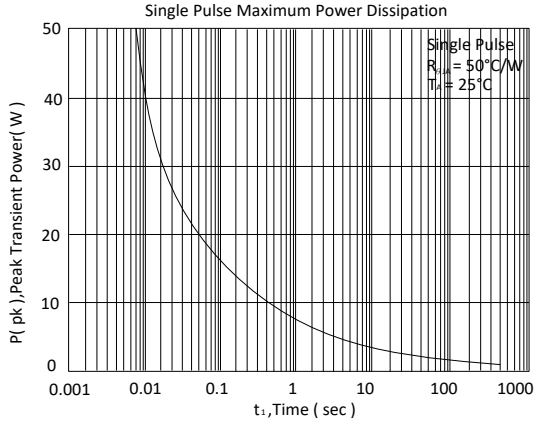
Capacitance Characteristics



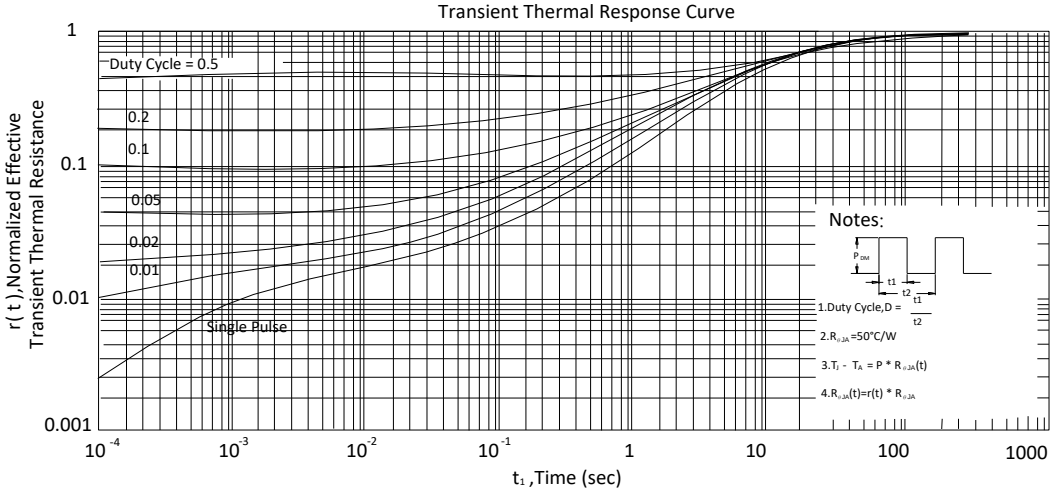
Maximum Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



Ordering & Marking Information:

Device Name: EMDA0P10G for SO-8

DA0P10: Device Name

ABCDEFG: Date Code

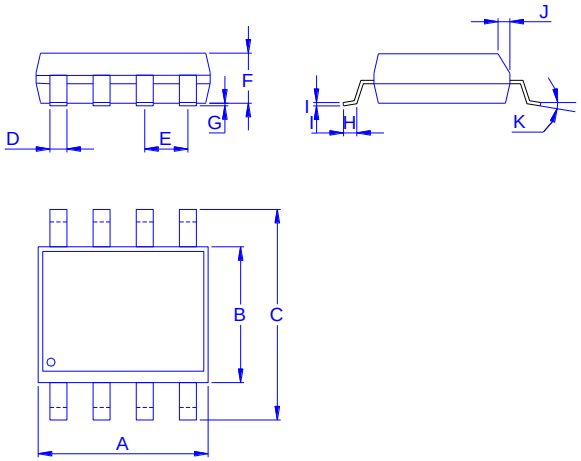
A: Assembly House

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.

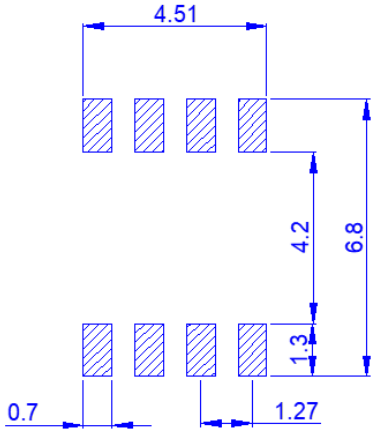
Outline Drawing



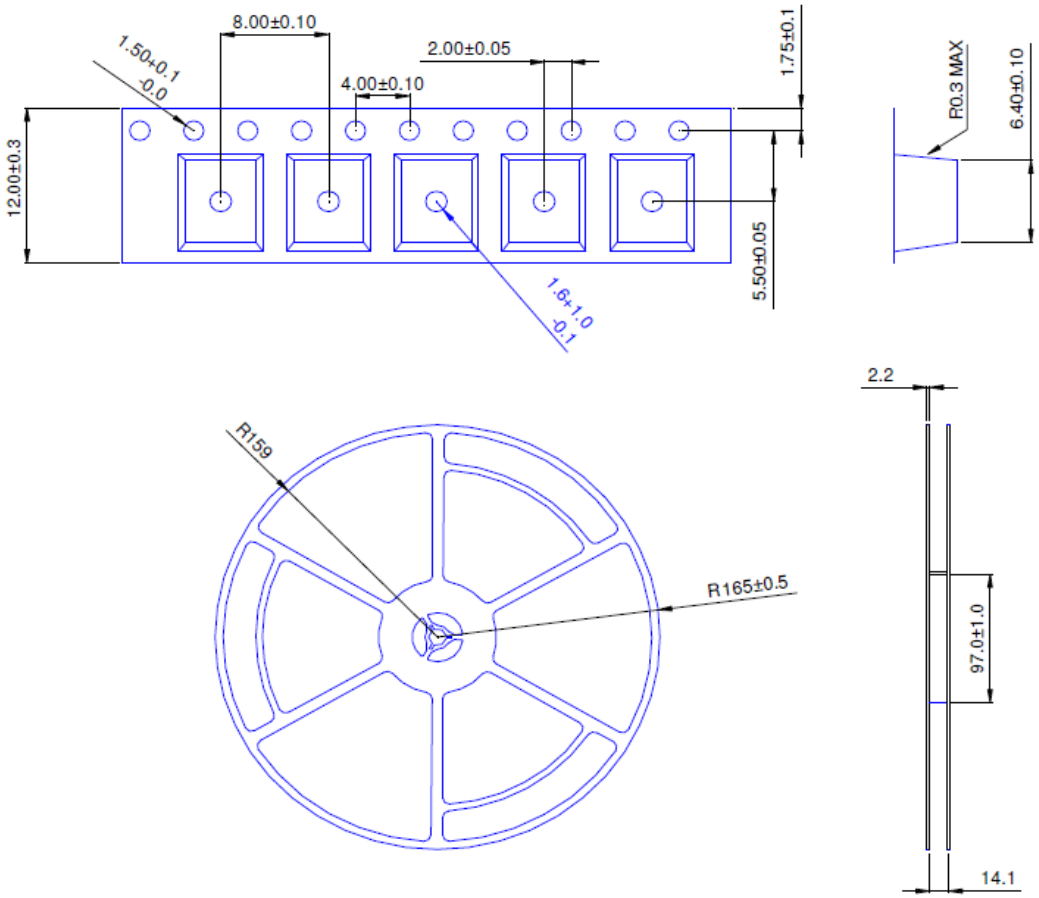
Dimension in mm

Dimension	A	B	C	D	E	F	G	H	I	J	K
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:5000pcs/Reel (Dimension in millimeter)



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