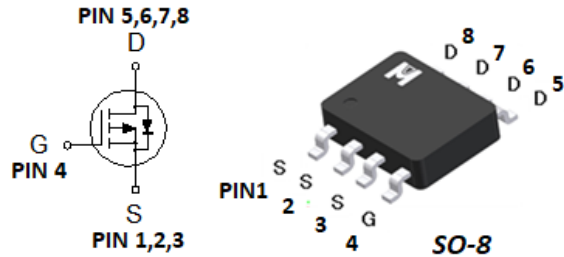


P-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV _{DSS}	-30V
R _{DS(on)} (MAX.)	14mΩ
I _D	-12A



P Channel MOSFET

UIS, Rg 100% Tested

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}	±25	V
Continuous Drain Current	T _A = 25 °C	I _D	-12	A
	T _A = 100 °C		-9	
Pulsed Drain Current ¹		I _{DM}	-48	
Avalanche Current		I _{AS}	-19	
Avalanche Energy	L = 0.1mH, I _{AS} = -19A, R _G = 25 Ω	E _{AS}	90	mJ
Power Dissipation	T _A = 25 °C	P _D	2.5	W
	T _A = 100 °C		1	
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}		25	°C / W
Junction-to-Ambient ³	R _{θJA}		60.53	

¹Pulse width limited by maximum junction temperature.

²Duty cycle ≤ 1%

³60.53°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	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
		V _{DS} = 0V, V _{GS} = ±25V			±500	
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	-12			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -10V, I _D = -12A		12	14	mΩ
		V _{GS} = -4.5V, I _D = -9A		17	21	
Forward Transconductance ¹	g _{fs}	V _{DS} = -5V, I _D = -12A		28		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -15V, f = 1MHz		2270		pF
Output Capacitance	C _{oss}			342		
Reverse Transfer Capacitance	C _{rss}			300		
Gate Resistance	R _g	V _{GS} = 15mV, V _{DS} = 0V, f = 1MHz		3.7		Ω
Total Gate Charge ^{1,2}	Q _{g(V_{GS}=-10V)}	V _{DS} = -15V, V _{GS} = -10V, I _D = -10A		39.3		nC
	Q _{g(V_{GS}=-4.5V)}			16		
Gate-Source Charge ^{1,2}	Q _{gs}			4.9		
Gate-Drain Charge ^{1,2}	Q _{gd}			7.5		
Turn-On Delay Time ^{1,2}	t _{d(on)}		V _{DS} = -15V, I _D = -1A, V _{GS} = -10V, R _{GS} = 2.7Ω		20	
Rise Time ^{1,2}	t _r			12		
Turn-Off Delay Time ^{1,2}	t _{d(off)}			55		
Fall Time ^{1,2}	t _f			15		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_c = 25 °C)						
Continuous Current	I _s				-3.6	A
Pulsed Current ³	I _{SM}				-14.4	
Forward Voltage ¹	V _{SD}	I _F = I _s , V _{GS} = 0V			-1.2	V
Reverse Recovery Time	t _{rr}	I _F = I _s , dI _F /dt = 100A / μS		52		nS
Reverse Recovery Charge	Q _{rr}			60		nC



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

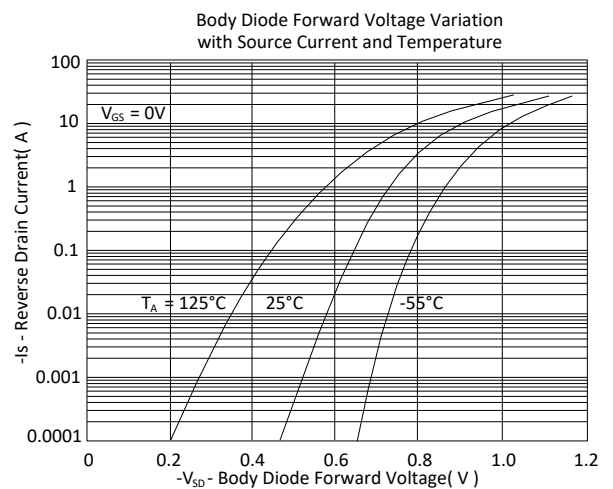
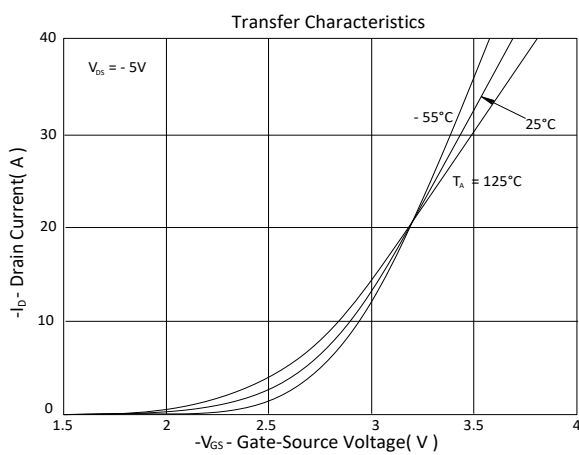
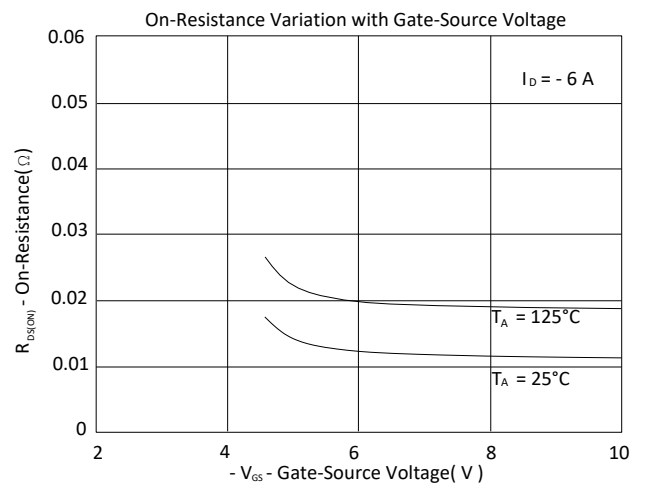
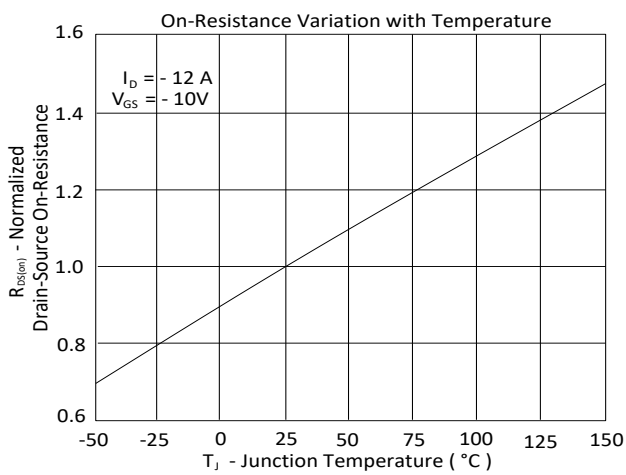
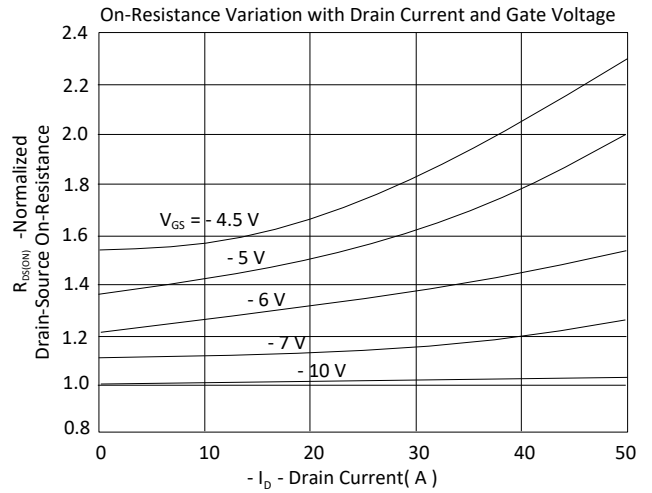
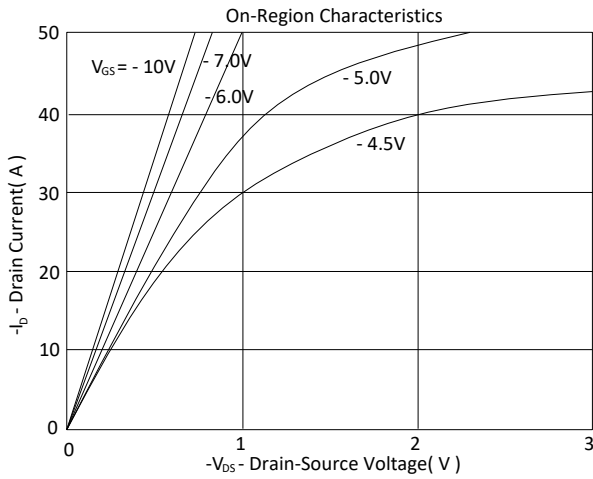
²Independent of operating temperature.

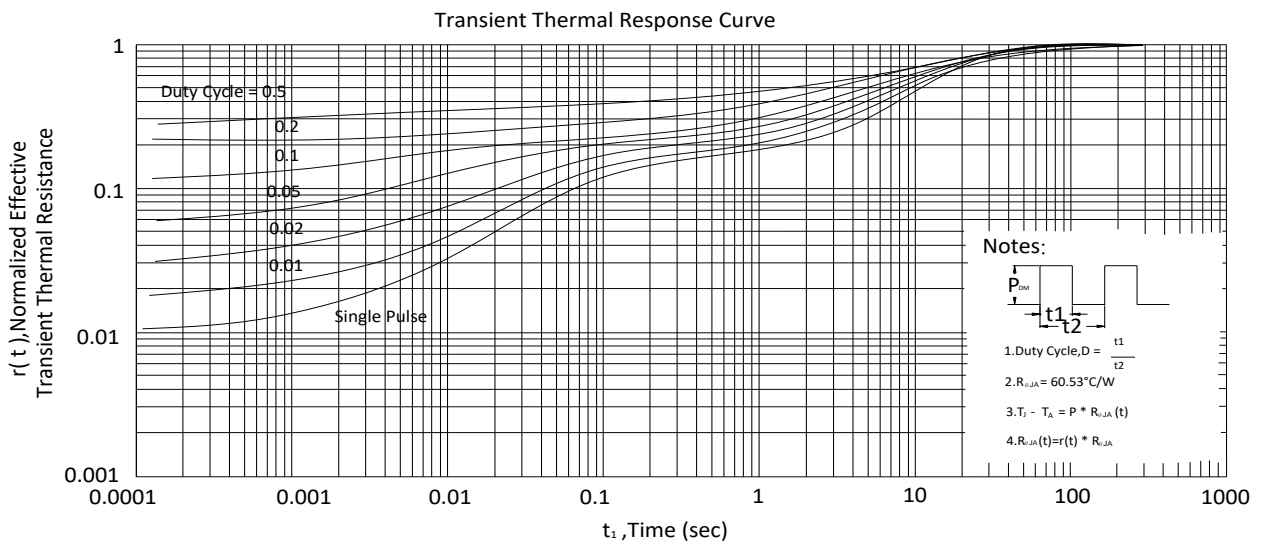
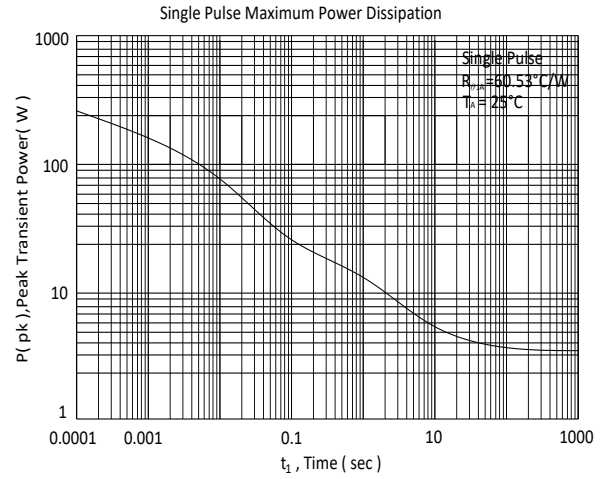
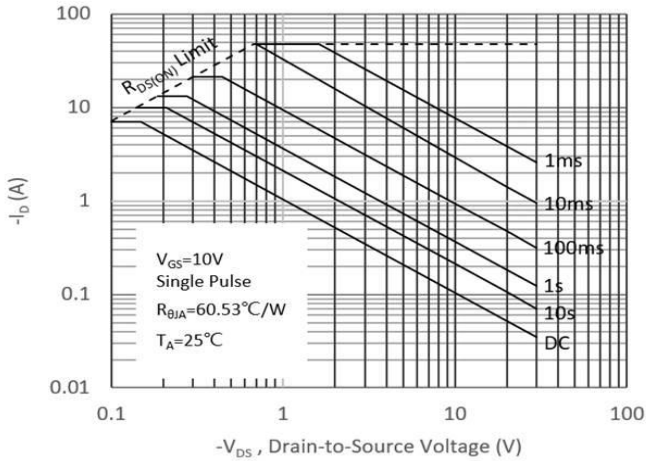
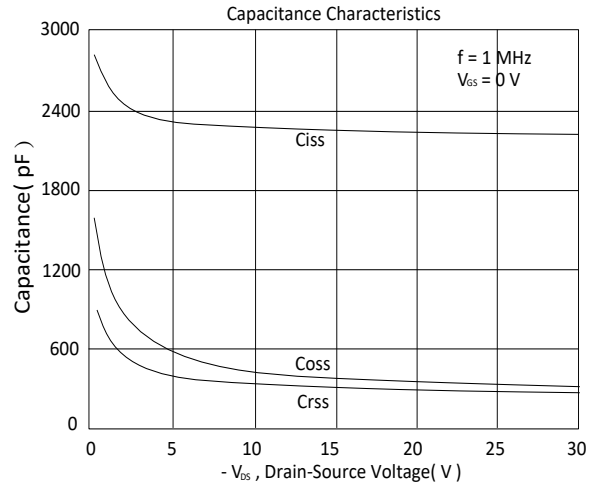
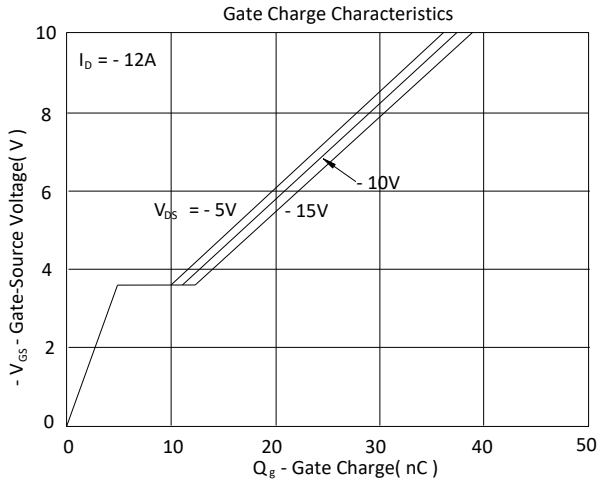
³Pulse width limited by maximum junction temperature.

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



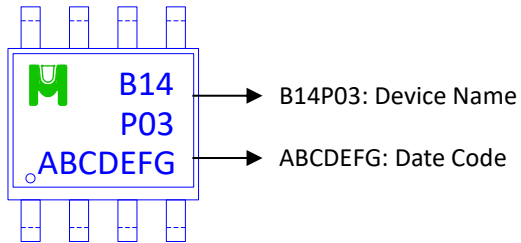
TYPICAL CHARACTERISTICS



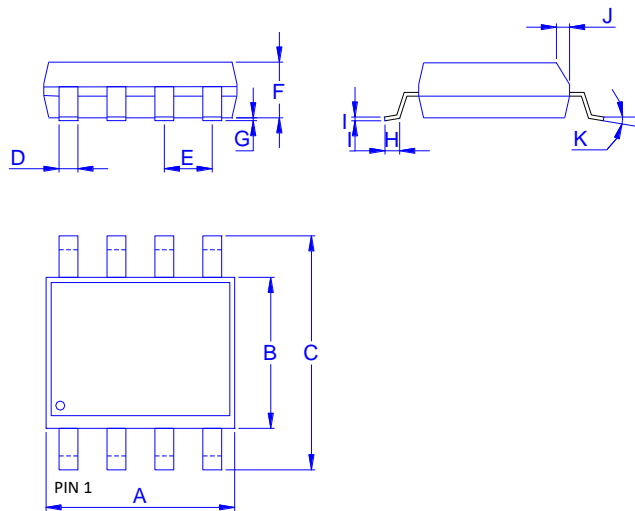


Ordering & Marking Information:

Device Name: EMB14P03G for SOP-8



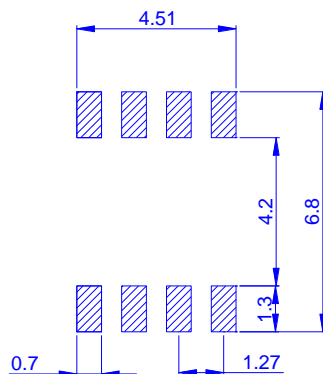
Outline Drawing



Dimension in mm

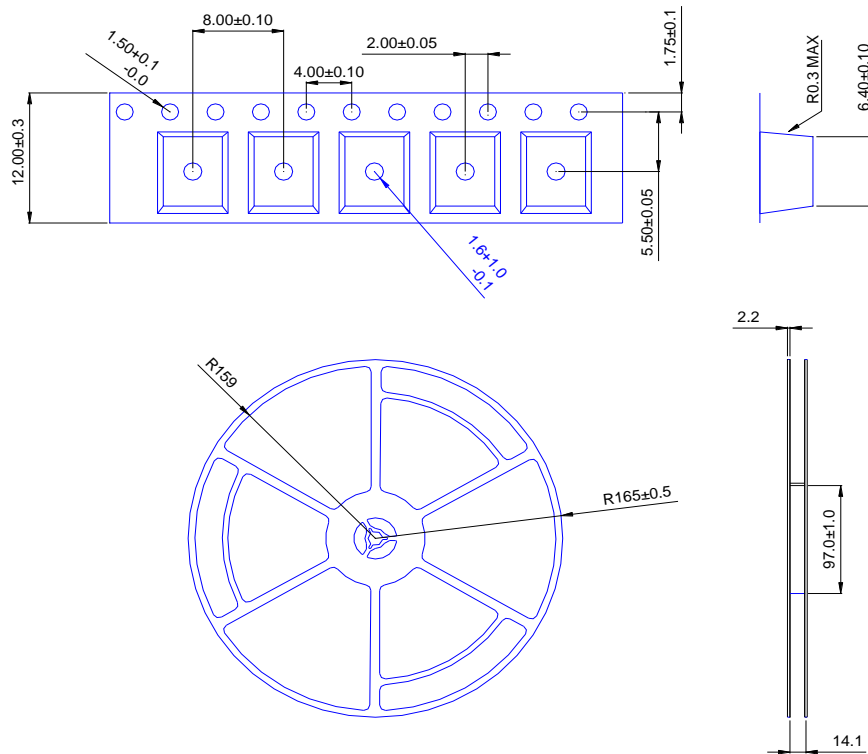
Dimension	A	B	C	D	E	F	G	H	I	J	K
Min.	4.70	3.80	5.80	0.31		1.35	0.01	0.40	0.10	0.25	0°
Typ.	4.90	3.90	6.00	0.41	1.27	1.55	0.18	0.60	0.20	0.30	
Max.	5.10	4.00	6.20	0.51		1.75	0.25	1.27	0.25	0.50	8°

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