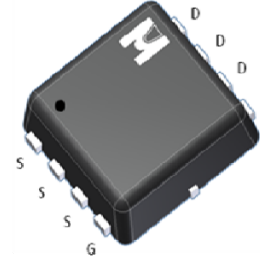
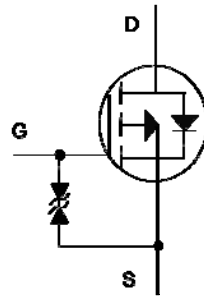


P-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

$BV_{DSS}$	-30V
$R_{DS(on)} (MAX.)$	8.5m $\Omega$
$I_D$	-25A



UIS, Rg 100% Tested

Pb-Free Lead Plating & Halogen Free

ESD Protection



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	-20	A
	$T_C = 100\text{ }^\circ\text{C}$		-18	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	-100	
Avalanche Current		$I_{AS}$	-25	
Avalanche Energy	$L = 0.1\text{mH}, I_D = -25\text{A}, R_G = 25\text{ }\Omega$	$E_{AS}$	31.25	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	2.5	W
	$T_C = 100\text{ }^\circ\text{C}$		1	
Operating Junction & Storage Temperature Range		$T_{j}, T_{stg}$	-55 to 150	$^\circ\text{C}$

100% UIS testing in condition of  $V_D = -15\text{V}$ ,  $L = 0.1\text{mH}$ ,  $V_G = -10\text{V}$ ,  $I_L = -20\text{A}$ , Rated  $V_{DS} = -30\text{V}$  P-CH

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNIT
Junction-to-Case	$R_{\theta JC}$		6	$^\circ\text{C} / \text{W}$
Junction-to-Ambient <sup>3</sup>	$R_{\theta JA}$		50	

<sup>1</sup>Pulse width limited by maximum junction temperature.

<sup>2</sup>Duty cycle  $\leq 1\%$

<sup>3</sup>50 $^\circ\text{C} / \text{W}$  when mounted on a 1 in<sup>2</sup> 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	
<b>STATIC</b>						
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	-1.5	-3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 12V$			$\pm 10$	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	$\mu A$
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ }^\circ\text{C}$			-10	
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = -5V, V_{GS} = -10V$	-25			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -12A$		7	8.5	$m\Omega$
		$V_{GS} = -4.5V, I_D = -9A$		12	15	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = -5V, I_D = -12A$		26		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		3091		$pF$
Output Capacitance	$C_{oss}$			476		
Reverse Transfer Capacitance	$C_{rss}$			404		
Gate Resistance	$R_g$	$V_{GS} = 15mV, V_{DS} = 0V, f = 1MHz$		3.5		$\Omega$
Total Gate Charge <sup>1,2</sup>	$Q_g(V_{GS}=10V)$	$V_{DS} = -15V, V_{GS} = -10V, I_D = -12A$		54		nC
	$Q_g(V_{GS}=4.5V)$			32		
Gate-Source Charge <sup>1,2</sup>	$Q_{gs}$			7.3		
Gate-Drain Charge <sup>1,2</sup>	$Q_{gd}$			13		
Turn-On Delay Time <sup>1,2</sup>	$t_{d(on)}$		$V_{DS} = -15V, I_D = -1A, V_{GS} = -10V, R_{GS} = 2.7\Omega$		24	
Rise Time <sup>1,2</sup>	$t_r$			20		
Turn-Off Delay Time <sup>1,2</sup>	$t_{d(off)}$			70		
Fall Time <sup>1,2</sup>	$t_f$			12		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_C = 25\text{ }^\circ\text{C}</math>)</b>						
Continuous Current	$I_S$				-25	A
Pulsed Current <sup>3</sup>	$I_{SM}$				-100	
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = -12A, V_{GS} = 0V$			-1.2	V
Reverse Recovery Time	$t_{rr}$	$I_F = I_S, di_F/dt = 100A / \mu S$		52		nS
Reverse Recovery Charge	$Q_{rr}$			60		nC

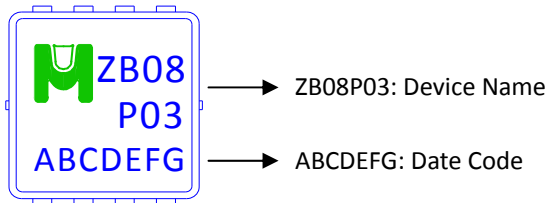
<sup>1</sup>Pulse test : Pulse Width  $\leq 300\ \mu\text{sec}$ , Duty Cycle  $\leq 2\%$ .

<sup>2</sup>Independent of operating temperature.

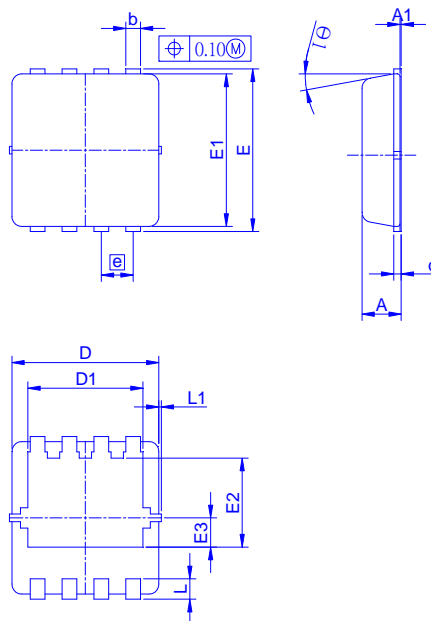
<sup>3</sup>Pulse width limited by maximum junction temperature.

Ordering & Marking Information:

Device Name: EMZB08P03V for EDFN 3 x 3



Outline Drawing



Dimension in mm

Dimension	A	A1	b	c	D	D1	E	E1	E2	E3	e	L	L1	Θ1
Min.	0.70	0	0.24	0.10	2.95	2.25	3.15	2.95	1.65			0.30		0°
Typ.	0.80		0.30	0.152	3.00	2.35	3.20	3.00	1.75	0.575	0.65	0.40	0.13	10°
Max.	0.90	0.05	0.37	0.25	3.15	2.45	3.40	3.15	1.96			0.50		12°

Recommended minimum pads

