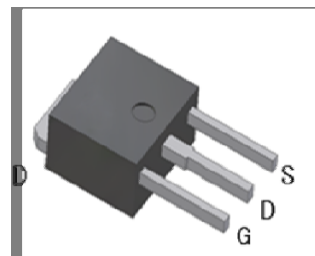
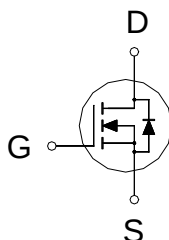


N-Channel Logic Level Enhancement Mode Field Effect Transistor

Product Summary:

BV _{DSS}	25V
R _{DS(on)} (MAX.)	6mΩ
I _D	80A



UIS, R_g 100% Tested

Pb-Free Lead Plating & Halogen Free



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNIT
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	T _C = 25 °C	I _D	80	A
	T _C = 100 °C		50	
Pulsed Drain Current ¹		I _{DM}	170	
Avalanche Current		I _{AS}	53	mJ
Avalanche Energy	L = 0.1mH, I _D =53A, R _G =25Ω	E _{AS}	140	
Repetitive Avalanche Energy ²	L = 0.05mH	E _{AR}	40	
Power Dissipation	T _C = 25 °C	P _D	50	W
	T _C = 100 °C		20	
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}		2.5	°C / W
Junction-to-Ambient	R _{θJA}		75	

¹Pulse width limited by maximum junction temperature.

²Duty cycle ≤ 1%

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT	
			MIN	TYP	MAX		
STATIC							
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	25			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}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA	
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 125\text{ }^{\circ}C$			25		
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	80			A	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 30A$		5.3	6	m Ω	
		$V_{GS} = 5V, I_D = 24A$		7.6	9.5		
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 24A$		25		S	
DYNAMIC							
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		1800		pF	
Output Capacitance	C_{oss}			480			
Reverse Transfer Capacitance	C_{rss}			220			
Gate Resistance	R_g	$V_{GS} = 15mV, V_{DS} = 0V, f = 1MHz$		1.2		Ω	
Total Gate Charge ^{1,2}	$Q_g(V_{GS}=10V)$	$V_{DS} = 15V, V_{GS} = 10V,$ $I_D = 30A$		34.5		nC	
	$Q_g(V_{GS}=5V)$			22			
Gate-Source Charge ^{1,2}	Q_{gs}			4.8			
Gate-Drain Charge ^{1,2}	Q_{gd}			12.5			
Turn-On Delay Time ^{1,2}	$t_{d(on)}$	$V_{DS} = 15V,$ $I_D = 25A, V_{GS} = 10V, R_{GS} = 2.7\Omega$		20		nS	
Rise Time ^{1,2}	t_r			15			
Turn-Off Delay Time ^{1,2}	$t_{d(off)}$			50			
Fall Time ^{1,2}	t_f			20			
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_C = 25\text{ }^{\circ}C$)							
Continuous Current	I_S				80	A	
Pulsed Current ³	I_{SM}				170		
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.3	V	
Reverse Recovery Time	t_{rr}	$I_F = I_S, dI_F/dt = 100A / \mu S$		32		nS	
Peak Reverse Recovery Current	$I_{RM(REC)}$			200		A	
Reverse Recovery Charge	Q_{rr}			12		nC	

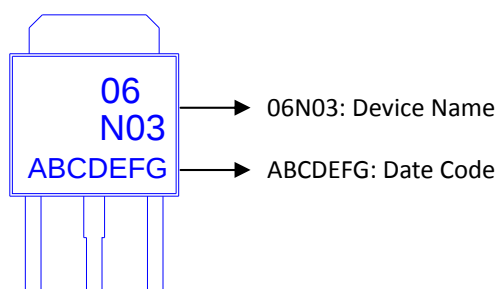
¹Pulse test : Pulse Width $\leq 300\mu$ sec, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

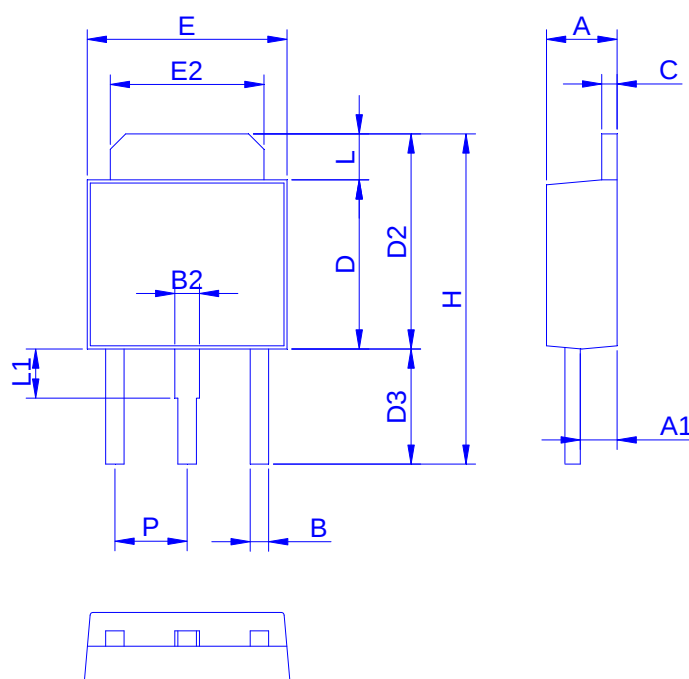
³Pulse width limited by maximum junction

temperature. **Ordering & Marking Information:**

Device Name: LB06N03E for IPAK (TO-251)



Outline Drawing



Dimension in mm

Dimension	A	A1	B	B2	C	D	D2	D3	E	E2	H	L	L1	P
Min.	2.10	0.90	0.40	0.60	0.40	5.30	6.70	3.40	6.30	4.80	10.2	0.89	0.90	2.10
Max.	2.50	1.50	0.90	1.15	0.60	6.25	7.30	4.30	6.80	5.50	11.5	1.40	1.80	2.50

TYPICAL CHARACTERISTICS

