/ Descriptions

DFN8×8-4L N

Dual N-CHANNEL MOSFET in a DFN8×8-4L Plastic Package.

/ Features

V_{DS}(V)=500V I_D=5A

$R_{DS(ON)}$@10V<1.5 (Typ. 1.45Ω)

$R_{DS(ON)}$@6V<1.8 (Typ. 1.5)

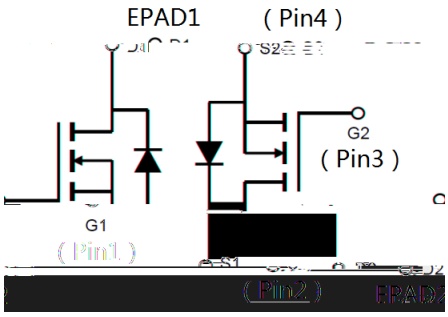
HF Product.

/ Applications

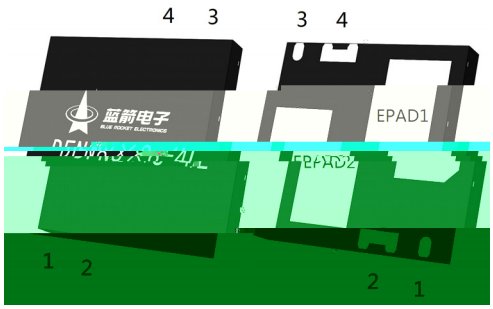
LED

Used in high-frequency switching power supply, electronic ballast, LED power supply and high-speed air duct.

/ Equivalent Circuit



/ Pinning



PIN 1	G1	PIN 2	S1	EPAD1	D1
PIN 3	G2	PIN 4	S2	EPAD2	D2

/ Marking

See Marking Instructions.

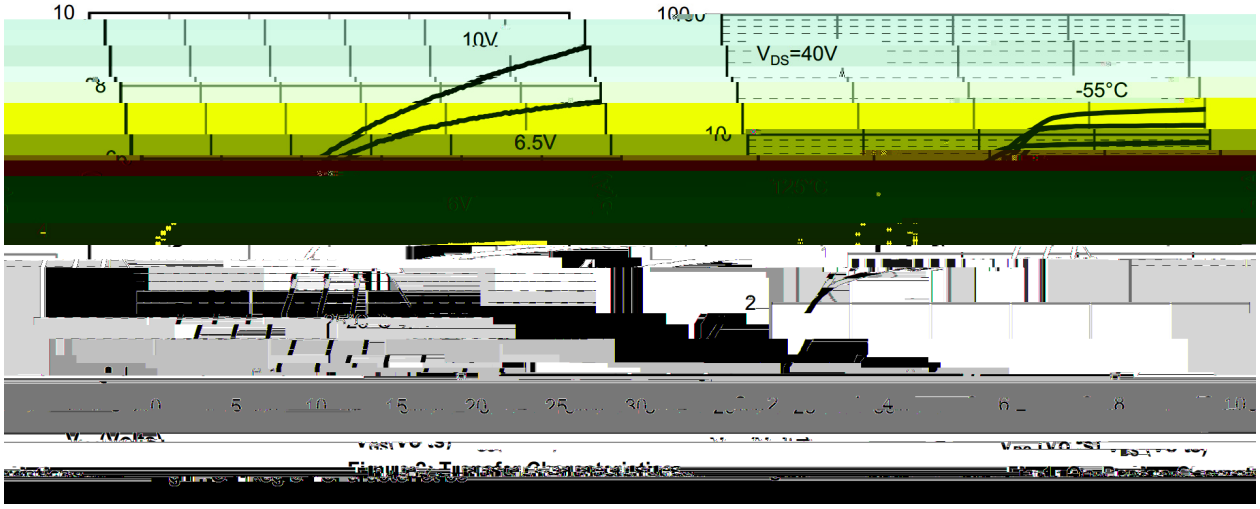
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	500	V
Drain Current	I_D(Tc=25)	5	A
Drain Current - Pulsed	I_{DM}	15.5	A
Gate-Source Voltage	V_{GSS}	±30	V
Avalanche Current	I_{AR}	7	A
Single Pulsed Avalanche Energy	E_{AS}	218	mJ
Power Dissipation (T_C=25)	P_D	90	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Thermal resistance,Junction to Case	$R_{\theta JC}$	1.39	/ W

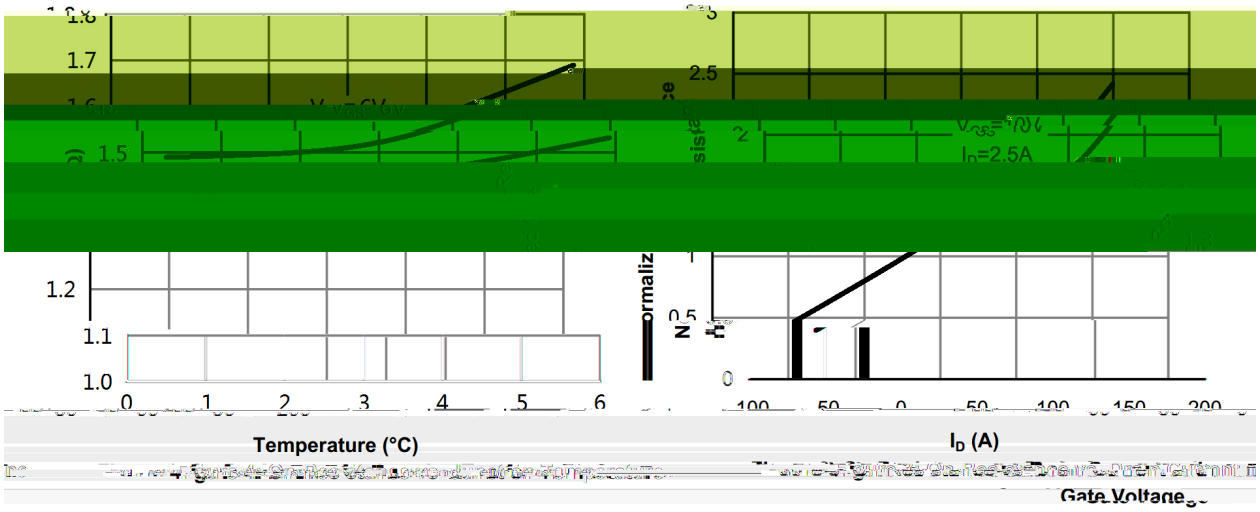
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	500	560		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=500V V_{GS}=0V			1	A
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±30V V_{DS}=0V			±0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	2	3.2	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=2.5A		1.45	1.5	
	$R_{DS(on)}$	V_{GS}=6V I_D=2A		1.5	1.8	
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		570		pF
Output Capacitance	C_{oss}			150		pF
Reverse Transfer Capacitance	C_{rss}			10		pF
Total Gate Charge	Q_G	V_{DS}= 400V, I_D= 5.0A, V_{GS}= 10V		25		nC
Gate-Source Charge	Q_{GS}			6		

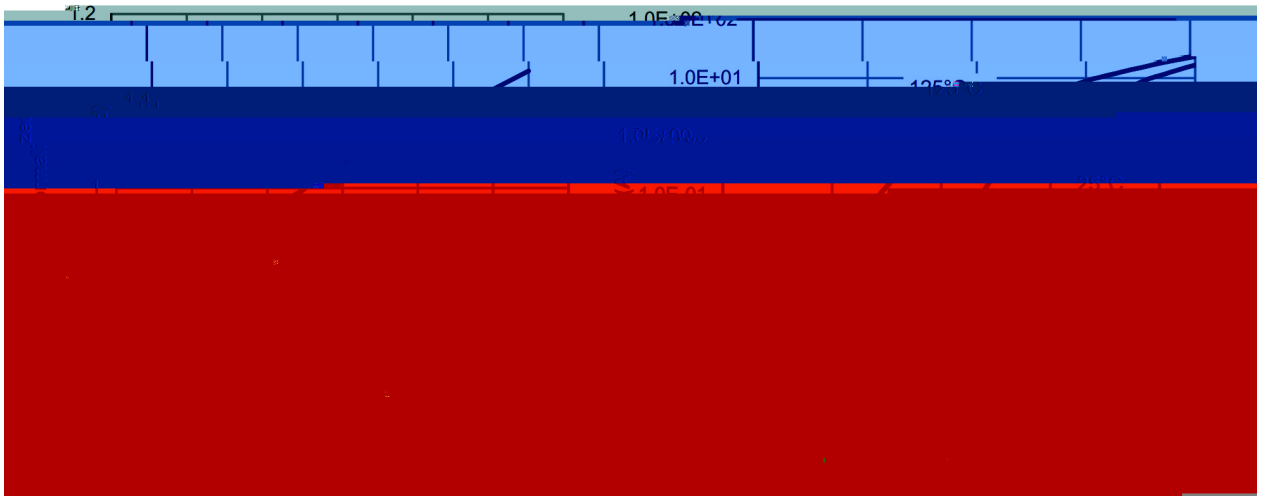
BRCS5N50YU

Rev.A Aug.-2023

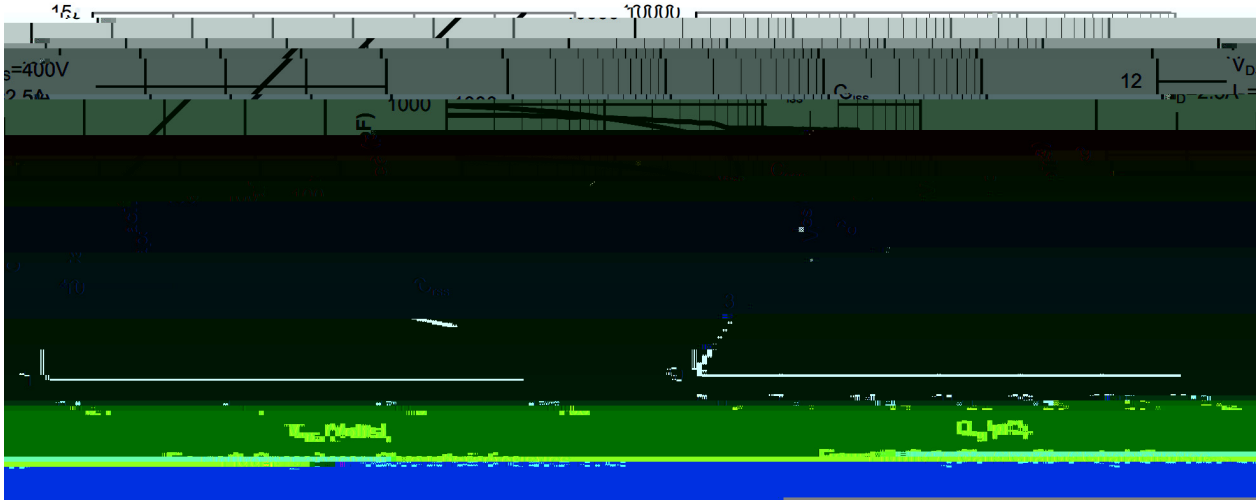
/ Electrical Characteristic Curve

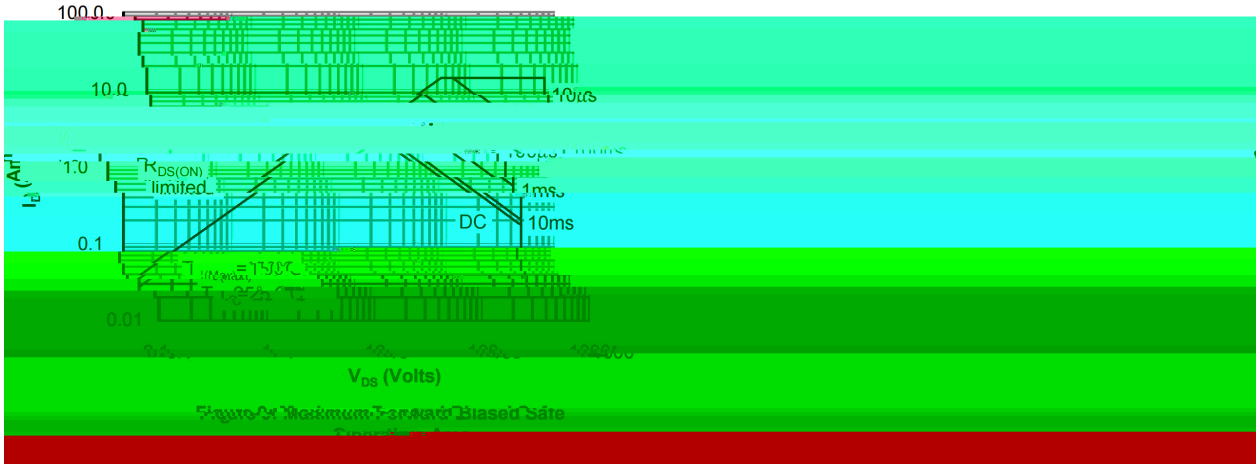


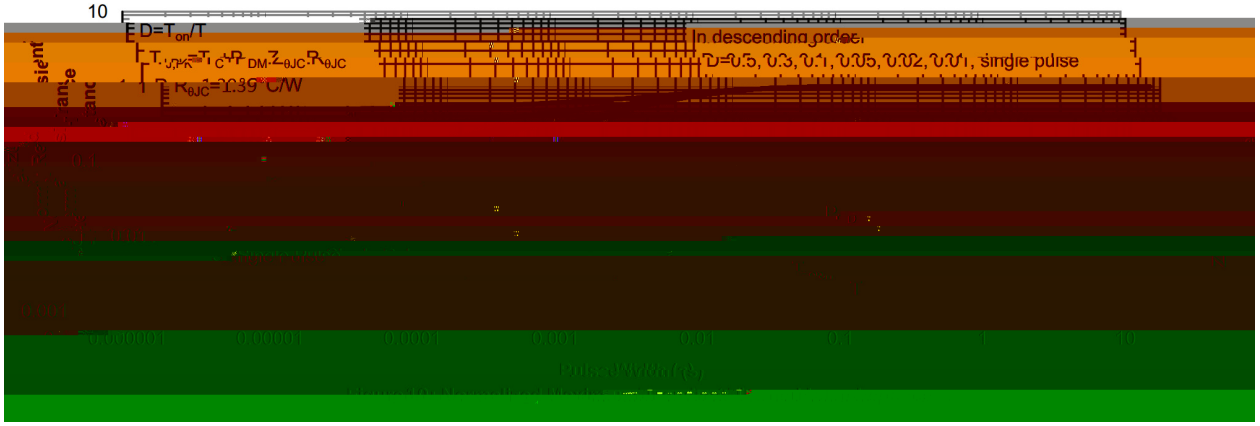




/ Electrical Characteristic Curve



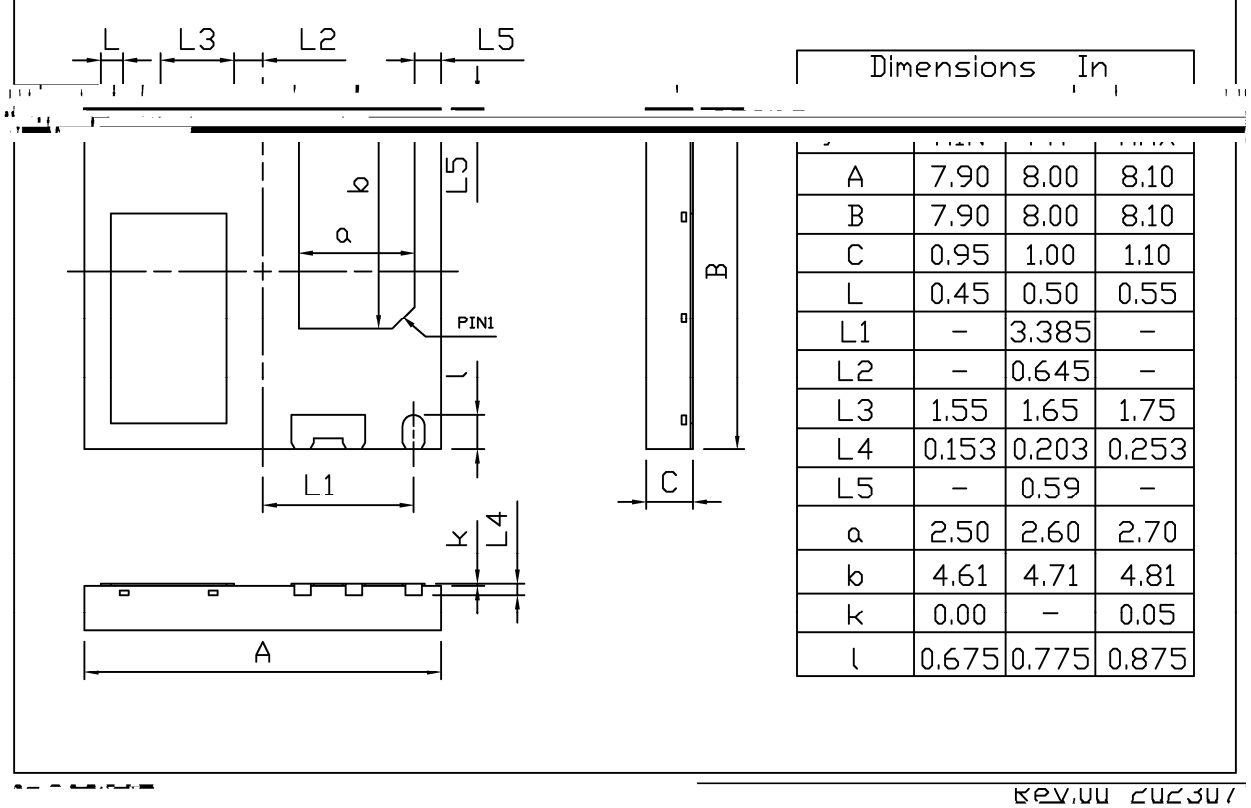




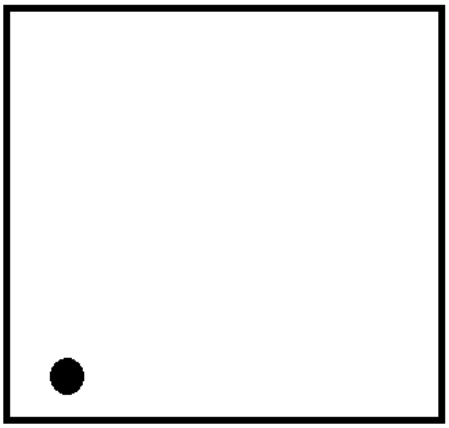
/ Package Dimensions

DFN8X8-4L

Unit:mm



Dimensions In			
A	7.90	8.00	8.10
B	7.90	8.00	8.10
C	0.95	1.00	1.10
L	0.45	0.50	0.55
L1	–	3.385	–
L2	–	0.645	–
L3	1.55	1.65	1.75
L4	0.153	0.203	0.253
L5	–	0.59	–
a	2.50	2.60	2.70
b	4.61	4.71	4.81
k	0.00	–	0.05
l	0.675	0.775	0.875



( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

1 150 180 60 90sec;

2 245±5 5±0.5sec;

3 2 10 /sec.

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL