DFN8×8-3L 650V GaN

650V GaN Enhancement-mode Power Transistor in a DFN8 ×

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Transient Drain to Source Voltage[1]	$V_{TR\ DSS}$	725	V
Drain Current – Pulsed	I_{DM}	30	A
Gate-Source Voltage	V_{GS}	± 18	V
Continuous current, Drain Source T_C=25 [2]	I_D	6.5	A
Continuous current, Drain Source T_C=100 [2]		4.0	A
Power Dissipation	P_D(T_C=25)	21	W
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	
Thermal Resistance, Junction - Case	$R_{\theta JC}$	5.9	/ W
Thermal Resistance, Junction - Ambient	$R_{\theta JA}$	50	/ W

Notes

1. In off-state,spike duty cycle D 0.01,spike duration 1us
2. For increased stability at high current operation

Static Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{BL)DSS}$	V_{GS}=0V	650			V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V			15	uA
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}= ±18V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=500uA	1.1	2.0	2.9	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=8V, I_D=5A		250	330	mΩ
		V_{GS}=8V,I_D=5A T_J=150		500		

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	V_{DS}=400V ,V_{GS}=0V f=1.0MHz		760		pF
Output Capacitance	C_{oss}			16		

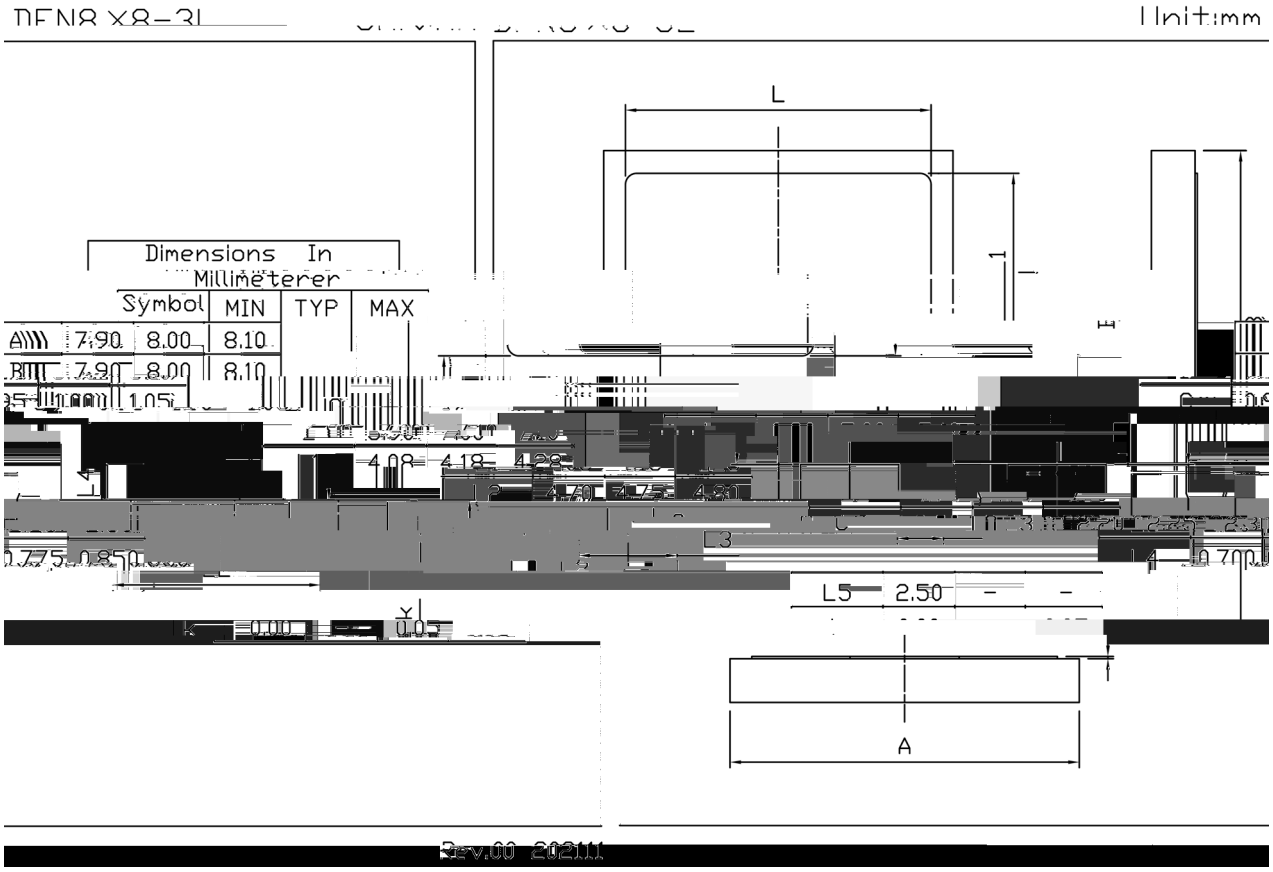
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=0~8V, V_{DS}=400V, I_D=4A, R_g=30Ω		20		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			52		
Turn-Off Fall Time	t_f			10		
Total Gate Charge	Q_g	V_{GS}=0~8V, V_{DS}=400V, I_D=4A		9.5		nC
Gate Source Charge	Q_{gs}			2.7		
Gate Drain Charge	Q_{gd}			2.5		
Output Charge	Q_{OSS}	V_{GS}=0V,V_{DS}=0~400V,		19		nC

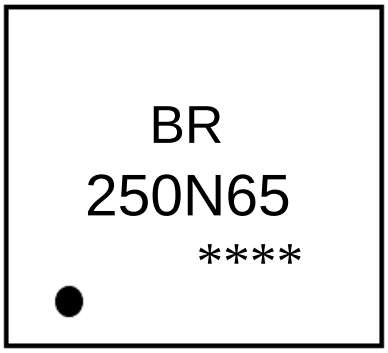
Reverse Conduction Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Voltage	V_{SD}	I_S=2A, V_{GS}=0V		1.2		V
Pulsed Current, Reverse	I_S	V_{GS} = 0V; T_C=100 ≤25% duty cycle			4.0	A
Reverse Recovery Time	t_{RR}	IS=4A VDS=400V di/dt=1000A/us		15		ns
Reverse Recovery Charge	Q_{RR}			22		nC

/ Package Dimensions



/ Marking Instructions



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250N65

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Note

BR	Company Code
250N65	Product Type
****:	Lot No. Code, code change with Lot No

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

1	150	180		60	90sec;	Note: 1.Preheating:150~180 , Time:60~90sec.
2	245±5				5±0.5sec;	2.Peak Temp.:245±5 , Duration:5±0.5sec.
3			2	10	/sec.	3. Cooling Speed: 2~10 /sec.