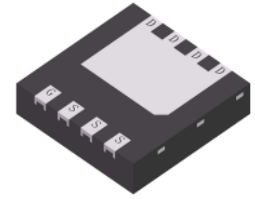


# S-LNB8408DT0AG

## N-Channel 40-V (D-S) MOSFET

### 1. FEATURES

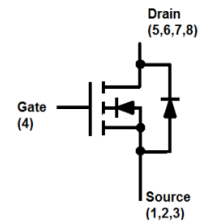
- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



DFN3333-8A

### 2. APPLICATION

- White LED boost converters
- DC/DC Conversion Circuits
- Motor Drives



### 3. ORDERING INFORMATION

Device	Marking	Shipping
S-LNB8408DT0AG	BN	2000/Tape&Reel

### 4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDSS	40	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current(Note 1)	TA =25°C	ID	14	A
	TA =70°C		10	
	TC =25°C		34	
	TC =70°C		27	
Pulsed Drain Current (Note 2)		IDM	56	
Avalanche Current (L = 0.1mH)		IAS	30	A
Avalanche Energy (L = 0.1mH)		EAS	45	mJ
Power Dissipation(Note 1)	TA =25°C	PD	3.5	W
	TC =25°C		21	
Operating Junction Temperature		TJ	-55 ~+150	°C
Storage Temperature Range		Tstg	-55 ~+150	

### 5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	t ≤ 10s	RθJA	35	°C/W
	Steady State		81	
Thermal Resistance, Junction-to-Case		RθJC	6	

- 1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
- 2.Pulse width limited by maximum junction temperature.

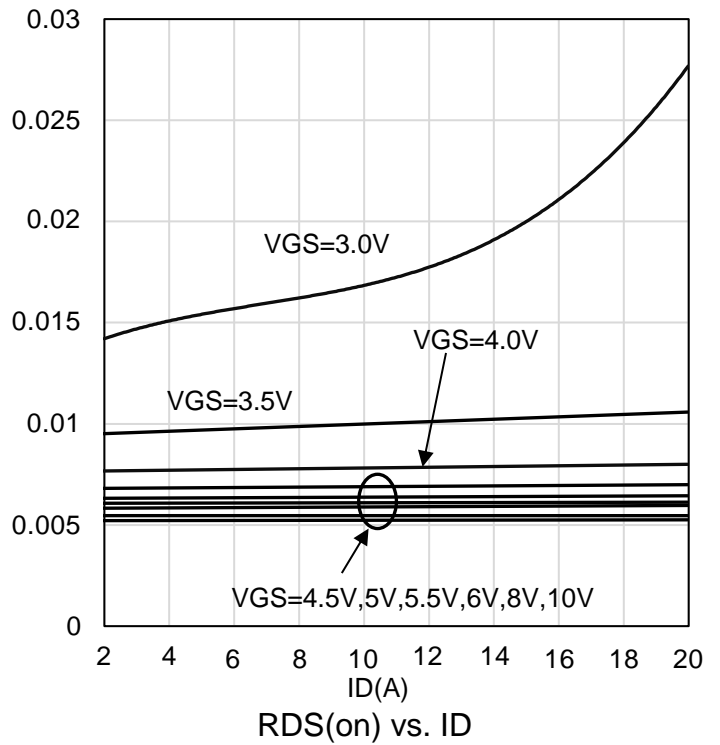
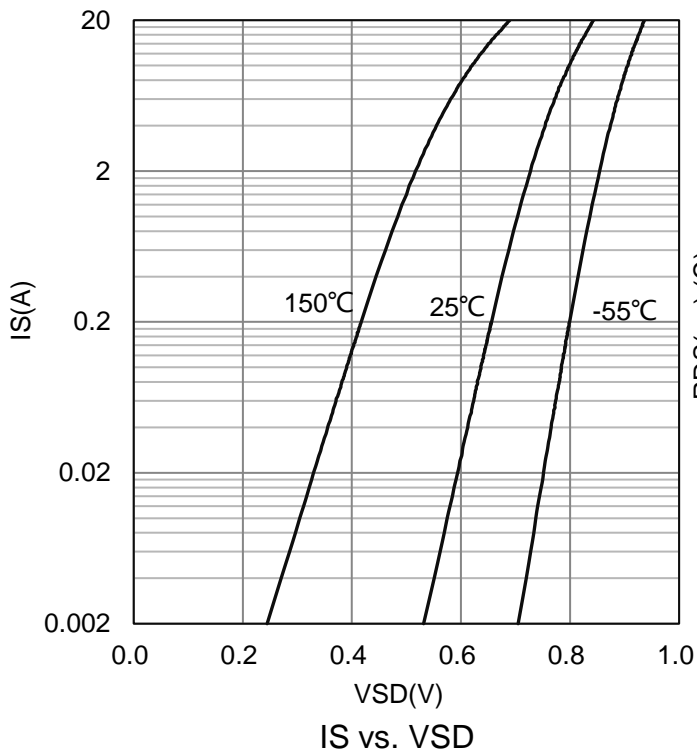
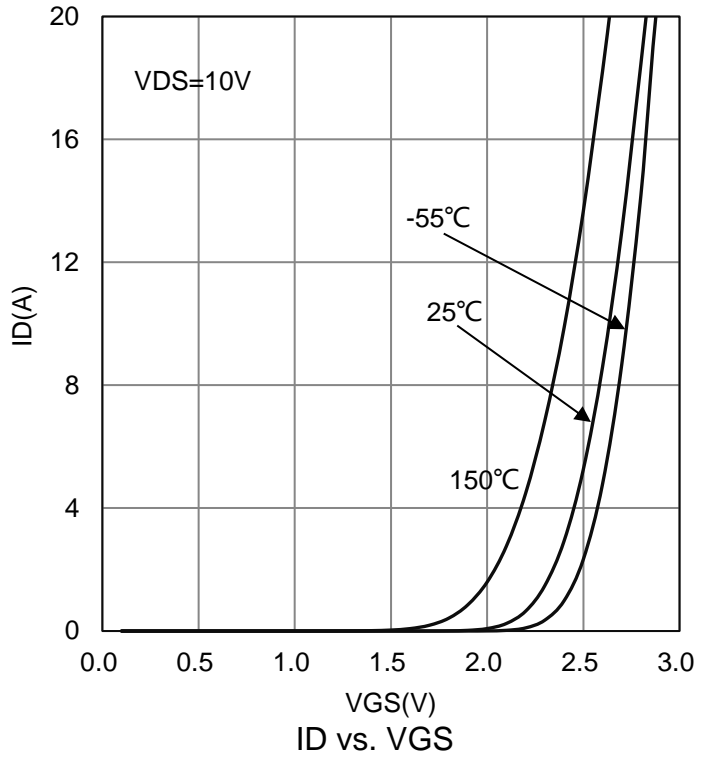
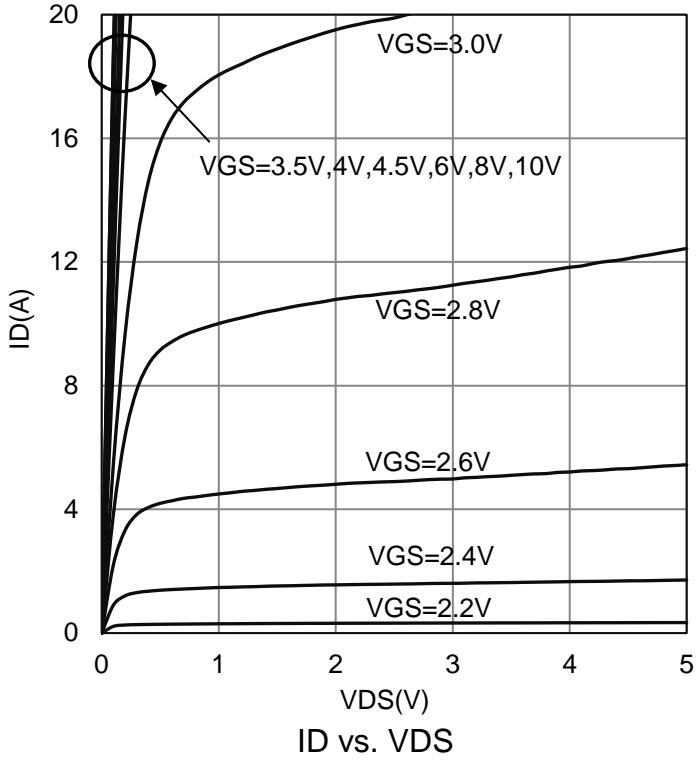
## 6. ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
<b>Static</b>						
Drain-Source Breakdown Voltage (VGS = 0, ID = 250 $\mu$ A)	VBRDSS	40	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 $\mu$ A)	VGS(th)	1	-	2.5	V	
Gate-Body Leakage (VDS = 0 V, VGS = $\pm$ 20 V)	IGSS	-	-	$\pm$ 100	nA	
Zero Gate Voltage Drain Current (VDS = 32 V, VGS = 0 V) (VDS = 32 V, VGS = 0 V, TJ = 55°C)	IDSS	-	-	1 25	$\mu$ A	
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 11 A) (VGS = 4.5 V, ID = 8.8 A)	RDS(on)	-	-	7 9.5	m $\Omega$	
Diode Forward Voltage(Note 3) (IS = 2.3 A, VGS = 0 V)	VSD	-	0.74	1.2	V	
<b>Dynamic(Note 4)</b>						
Total Gate Charge	(VDS = 20 V, VGS = 4.5 V, ID = 11 A)	Qg	-	33.6	-	nC
Gate-Source Charge		Qgs	-	11	-	
Gate-Drain Charge		Qgd	-	11.4	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	4128	-	pF
Output Capacitance		Coss	-	321	-	
Reverse Transfer Capacitance		Crss	-	271	-	
Turn-On Delay Time	(VDS = 20 V, RL = 1.9 $\Omega$ , ID = 11 A, VGEN = 10 V, RGEN = 6 $\Omega$ )	td(on)	-	22	-	ns
Rise Time		tr	-	36	-	
Turn-Off Delay Time		td(off)	-	210	-	
Fall Time		tf	-	86	-	

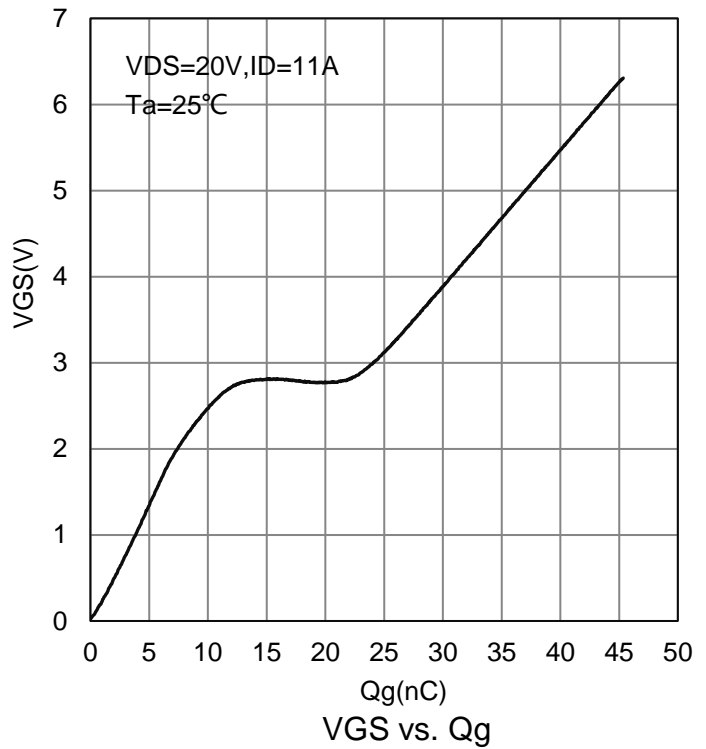
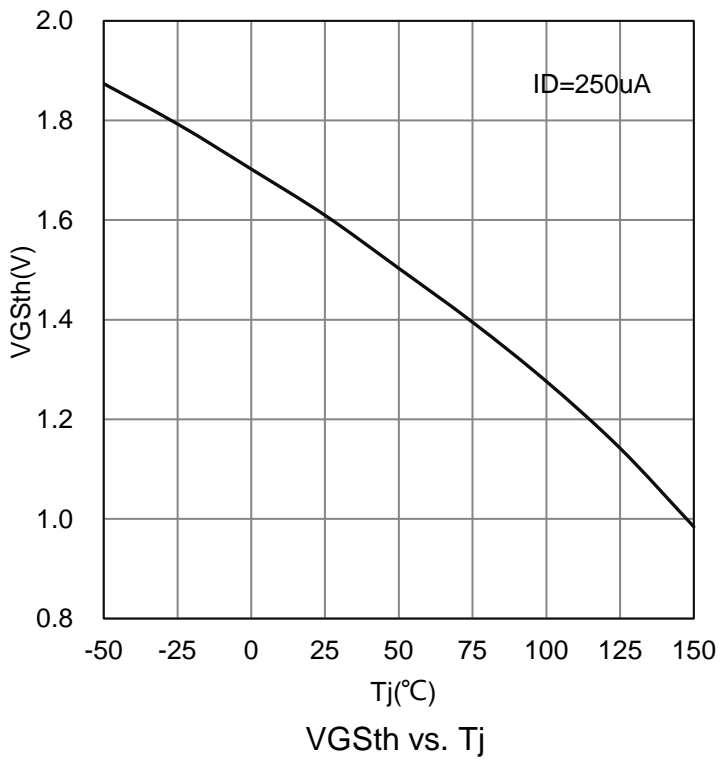
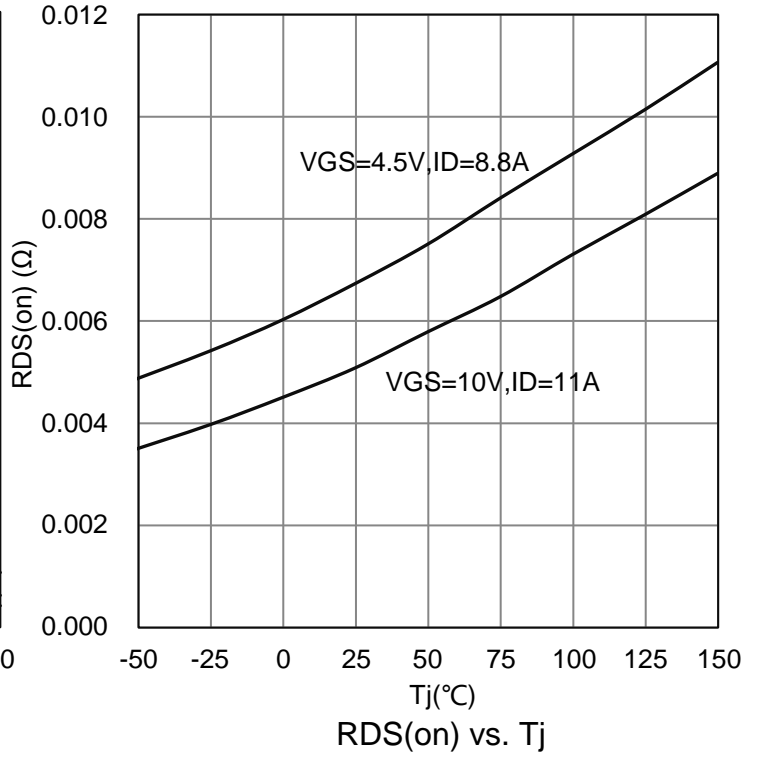
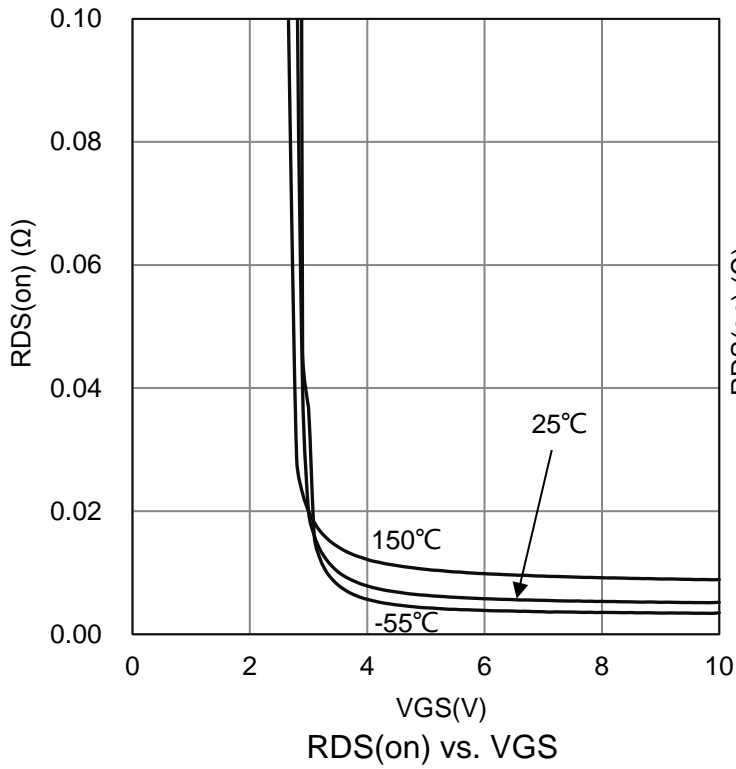
3. Pulse test: PW  $\leq$  300 $\mu$ s duty cycle  $\leq$  2%.

4. Guaranteed by design, not subject to production testing.

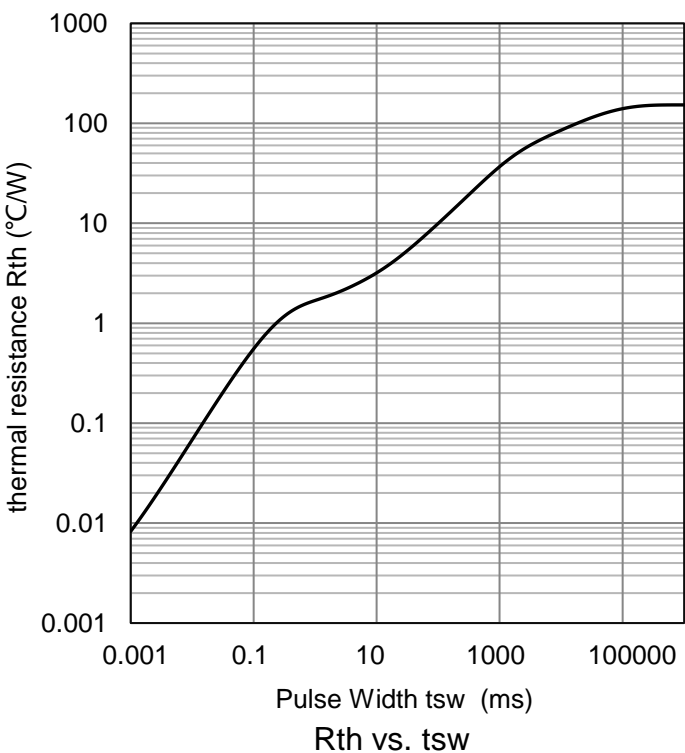
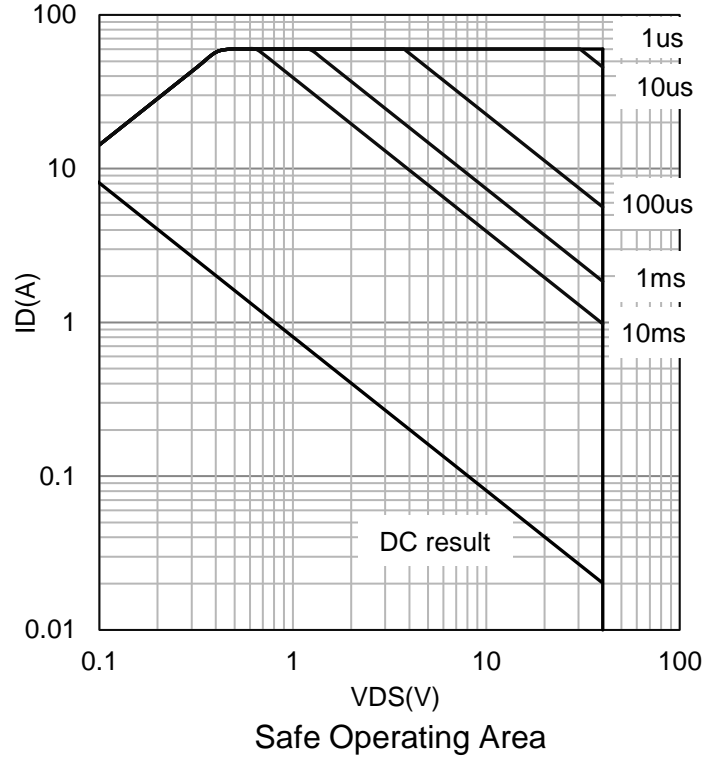
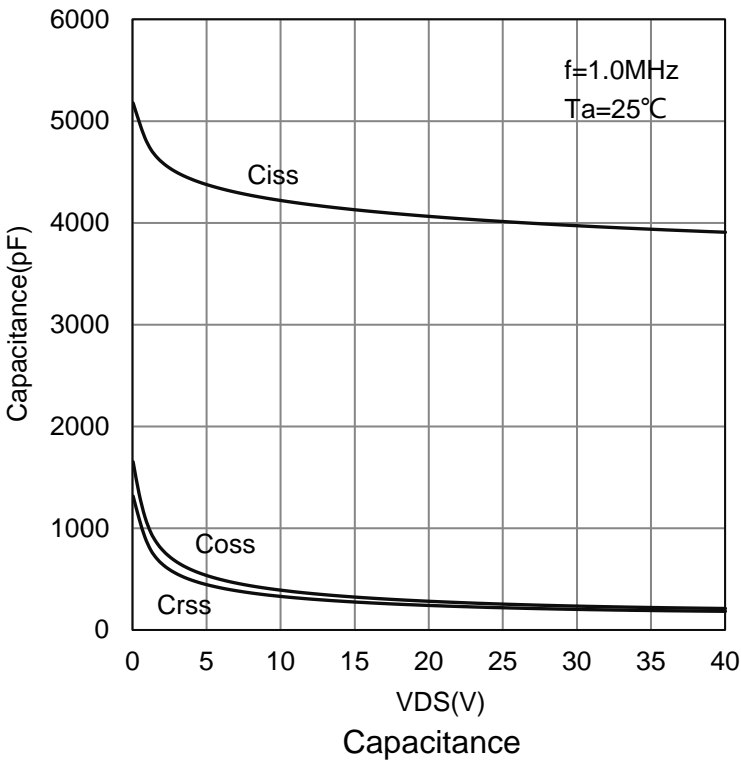
**7. ELECTRICAL CHARACTERISTICS CURVES**



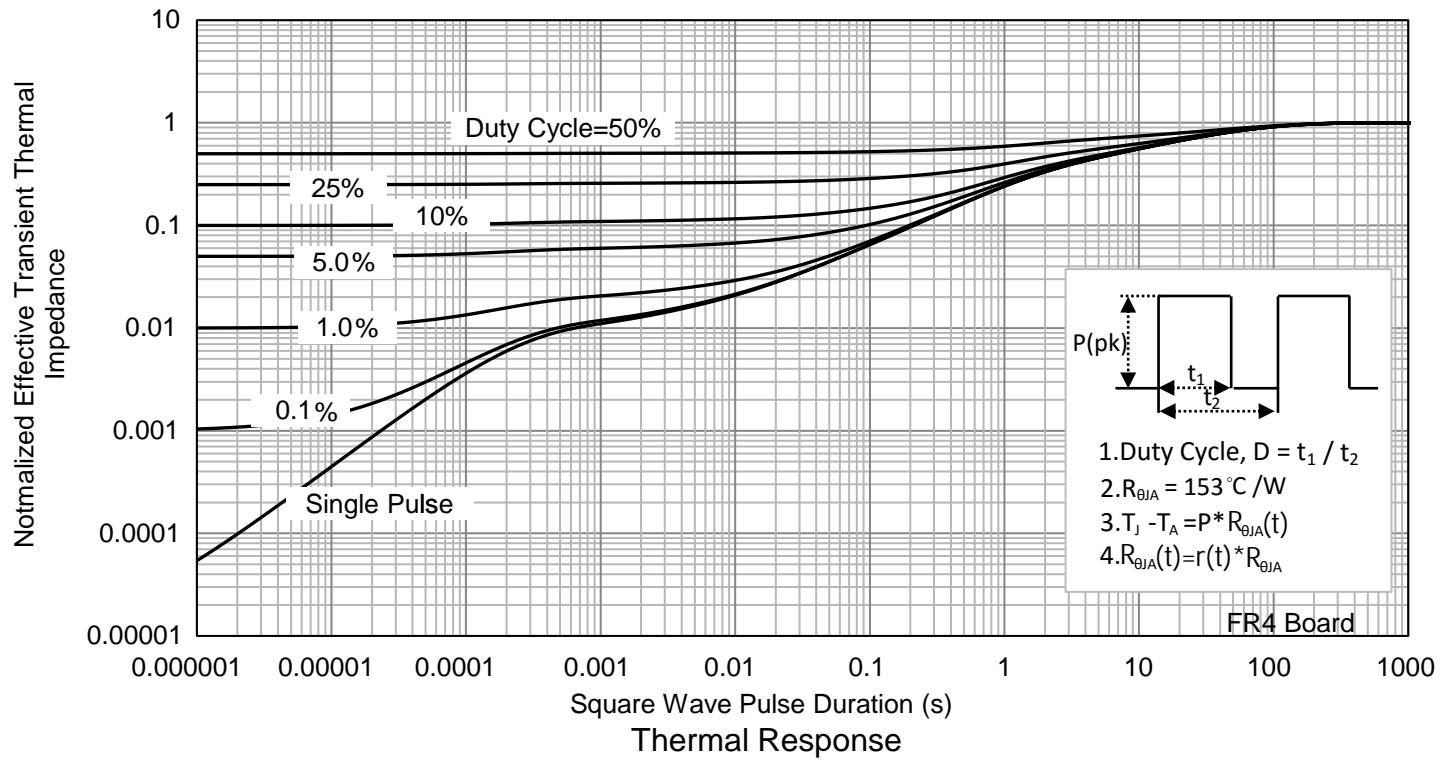
**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



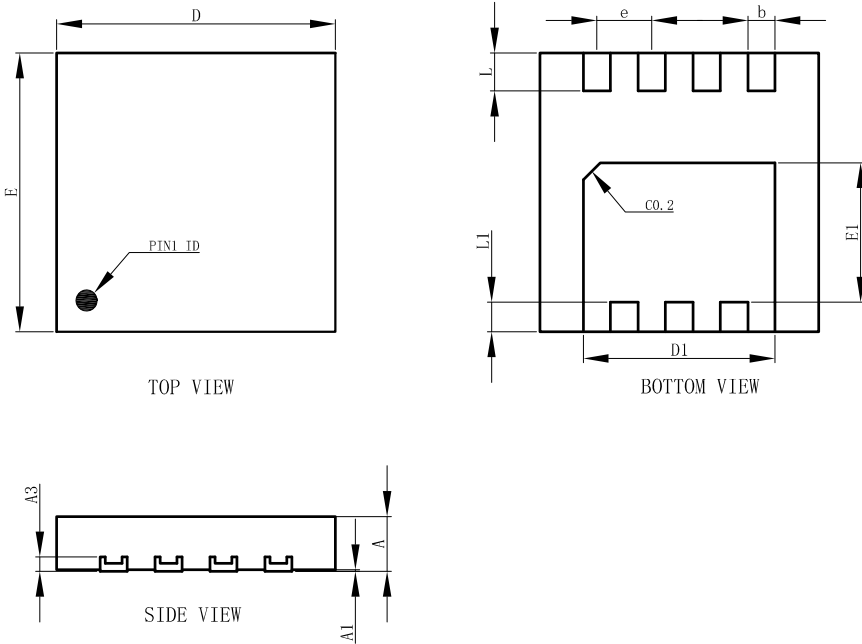
**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

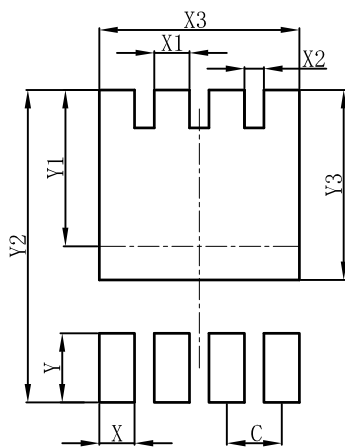


**8. OUTLINE AND DIMENSIONS**



DFN3333-8A			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

**9. SOLDERING FOOTPRINT**



DFN3333-8A	
DIM	(mm)
C	0.65
X	0.42
X1	0.42
X2	0.23
X3	2.37
Y	0.70
Y1	1.85
Y2	3.70
Y3	2.25

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