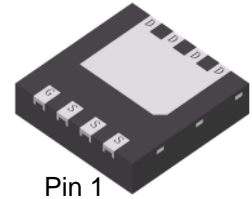


S-LNB84055HDT0AG

40V N-Channel MOSFET



Pin 1

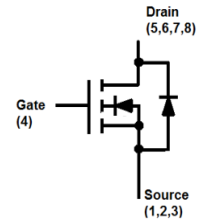
DFN3333-8A

1. FEATURES

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

2. APPLICATIONS

- Power Tools
- UPS
- Motor Control



3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
S-LNB84055HDT0AG	LNB84055H	2000/Tape&Reel

4. MAXIMUM RATINGS

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	40	V
Gate-to-Source Voltage		VGS	± 20	V
Continuous Drain Current(Note 1)	TA =25°C	ID	18	A
	TA =100°C		13	
Pulsed Drain Current(Note 2)	TA =25°C	IDM	72	
Continuous Drain Current	TC =25°C	ID	53	A
	TC =100°C		37	
Pulsed Drain Current	TC =25°C	IDM	212	
Avalanche Current		IAS	16	A
Avalanche energy(L=0.1mH)		EAS	13	mJ
Power Dissipation(Note 1)	TA =25°C	PD	2.7	W
	TA =100°C		1.3	
Power Dissipation	TC =25°C		50	
	TC =100°C		25	
Operating Junction and Storage Temperature Range		TJ , TSTG	-55~+175	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Ambient(Note 1)	RθJA	55	°C/W
Junction-to-Case	RθJC	3	

Note:1.Surface mounted on "1.5in x 1.5in" FR4 board using 1*1 in pad, 2 oz Cu.

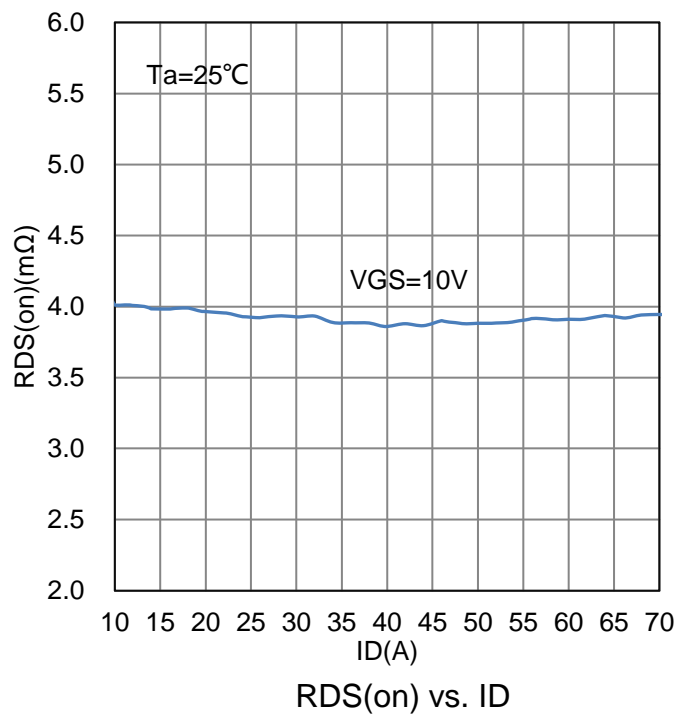
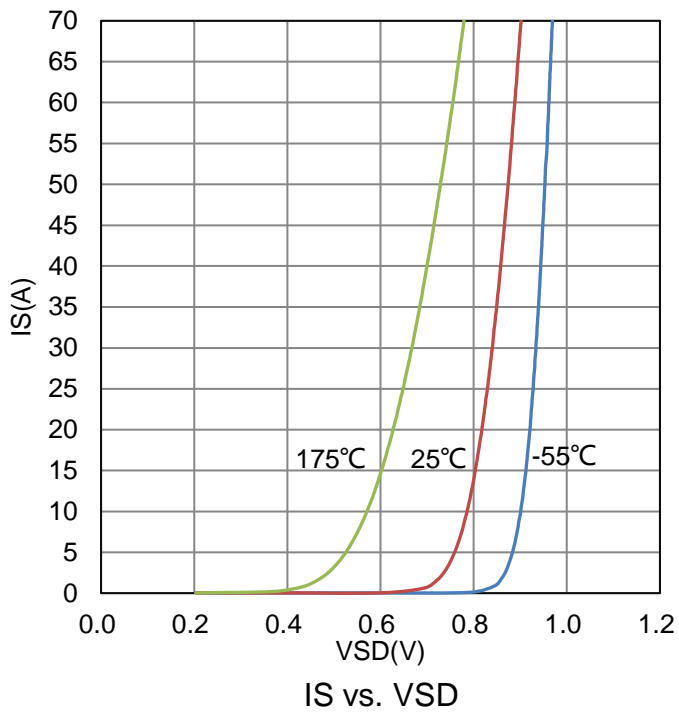
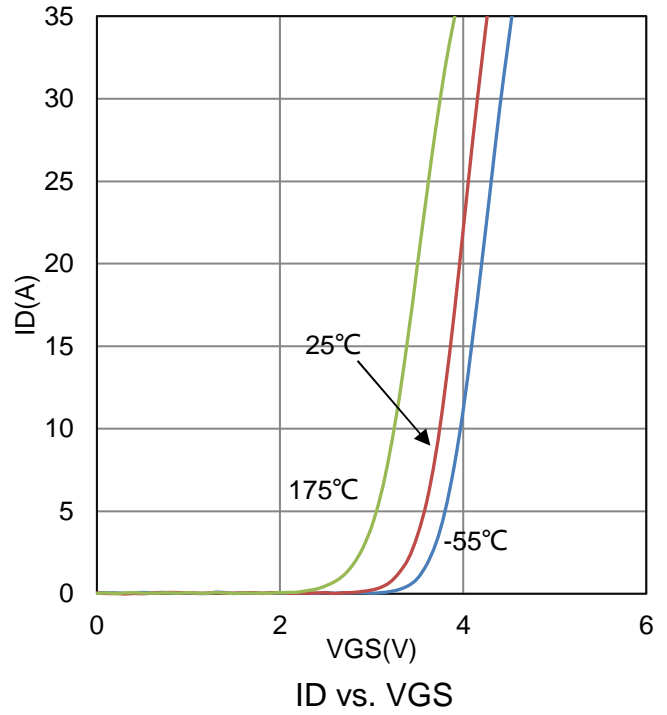
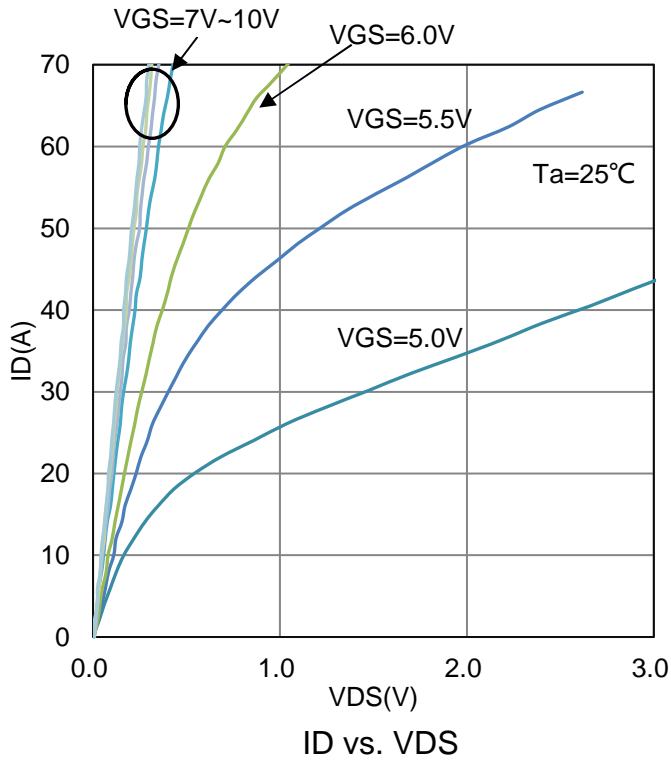
2.Pulse width limited by maximum junction temperature.

6. ELECTRICAL CHARACTERISTICS

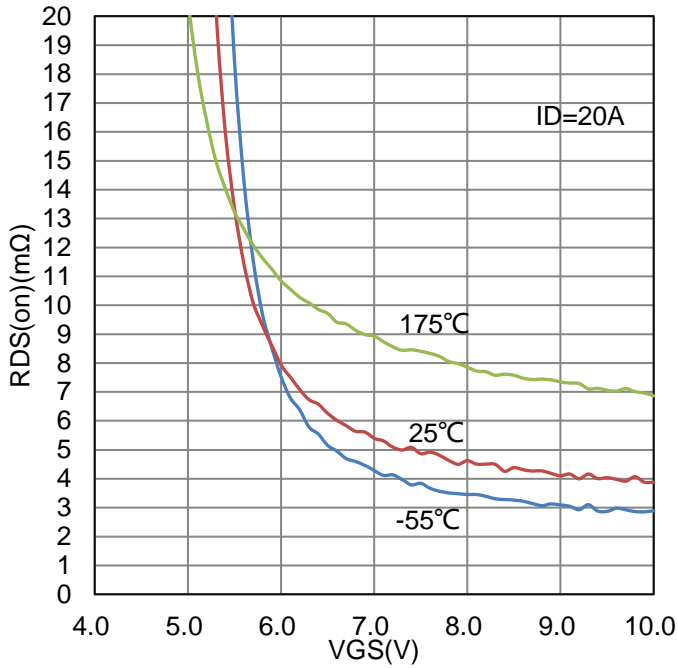
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain to Source Breakdown Voltage (VGS = 0 V, ID = 250 μ A)	BVDSS	40	-	-	V	
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μ A)	VGS(th)	2.1	2.65	3.9	V	
Gate-Body Leakage (VDS = 0 V, VGS = \pm 20 V)	IGSS	-	-	\pm 90	nA	
Zero Gate Voltage Drain Current (VDS = 40 V, VGS = 0 V)	IDSS	-	-	0.9	μ A	
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 20 A)	RDS(on)	-	4	5.4	m Ω	
Dynamic						
Input Capacitance	Ciss (VDS = 20 V, VGS = 0 V, f = 100KHz)	Ciss	-	860	-	pF
Output Capacitance		Coss	-	540	-	
Reverse Transfer Capacitance		Crss	-	47	-	
Total Gate Charge	Qg (VDS = 20 V, VGS = 10 V, ID = 20 A)	Qg	-	15.2	-	nC
Gate-Source Charge		Qgs	-	4.3	-	
Gate-Drain Charge		Qgd	-	4.8	-	
Turn-On Delay Time	(VDS = 20 V, ID = 20 A, VGS = 10 V, RG = 10 Ω)	td(on)	-	12	-	ns
Rise Time		tr	-	13	-	
Turn-Off Delay Time		td(off)	-	23	-	
Fall Time		tf	-	14	-	
Diode characteristics						
Continuous Current TC =25° C	IS	-	-	53	A	
Plused Current TC =25° C	ISM	-	-	212	A	
Diode Forward Voltage (IS = 20 A, VGS = 0 V)	VSD	-	0.82	1.15	V	
Reverse Recovery Time (VR=20V, IF=10A, dIF/dt=100A/us)	trr	-	55	-	ns	
Reverse Recovery Charge (VR=20V, IF=10A, dIF/dt=100A/us)	Qrr	-	53	-	nC	
Reverse Recovery Current (VR=20V, IF=10A, dIF/dt=100A/us)	IRRM	-	1.92	-	A	

 3.Pulse test: PW \leq 300us duty cycle \leq 2%.

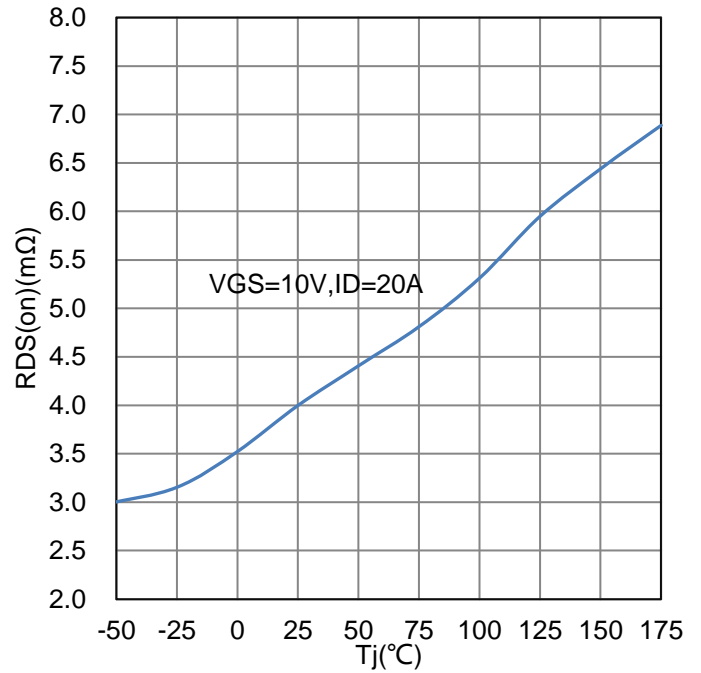
7. ELECTRICAL CHARACTERISTICS CURVES



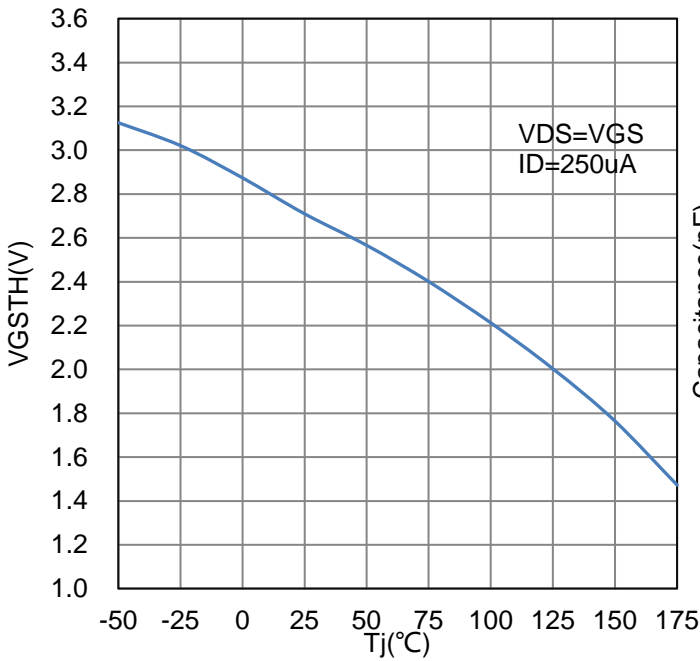
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



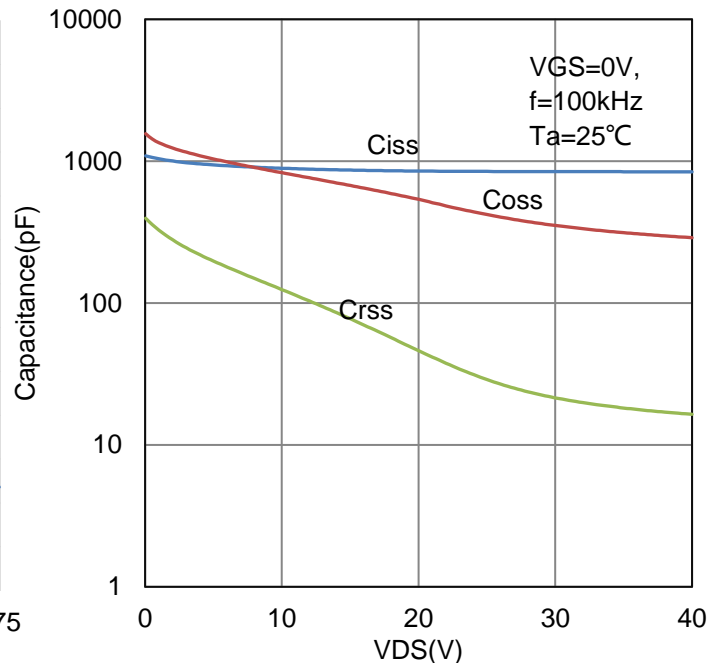
RDS(on) vs. VGS



RDS(on) vs. Tj

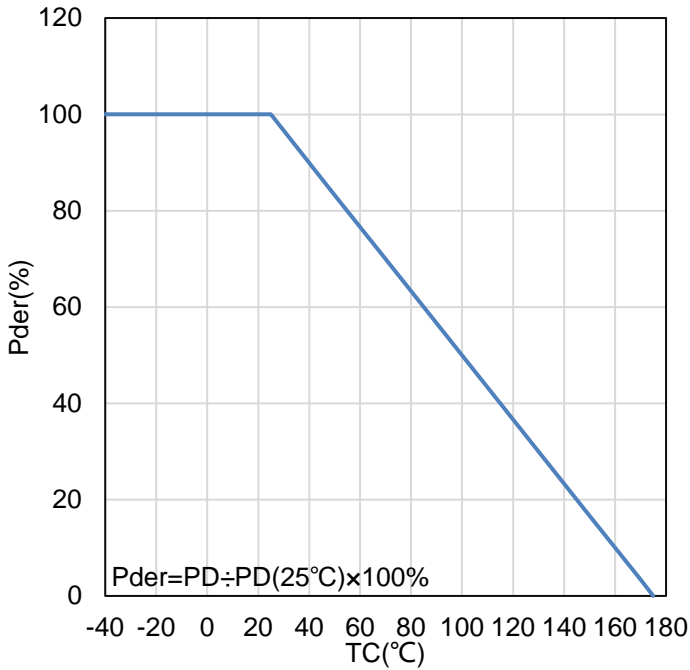


VGsth vs. Tj

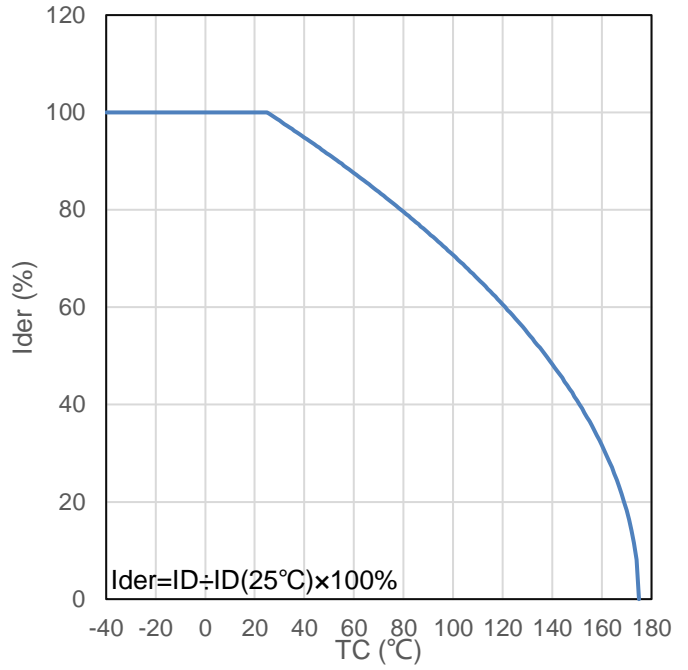


Capacitance

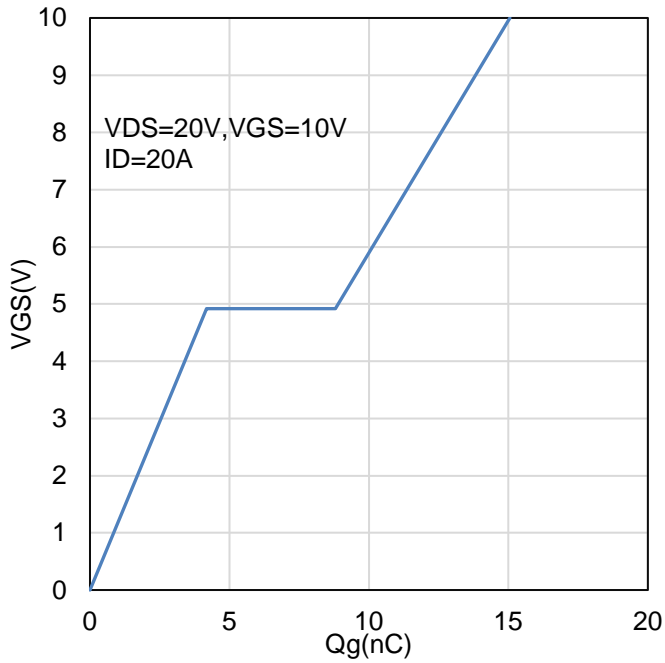
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



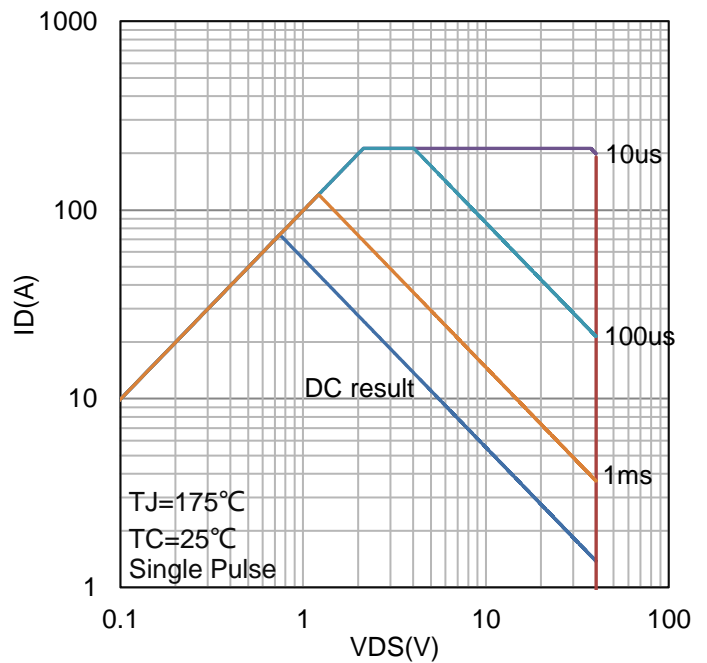
Normalized Derating Curve



Normalized drain Current

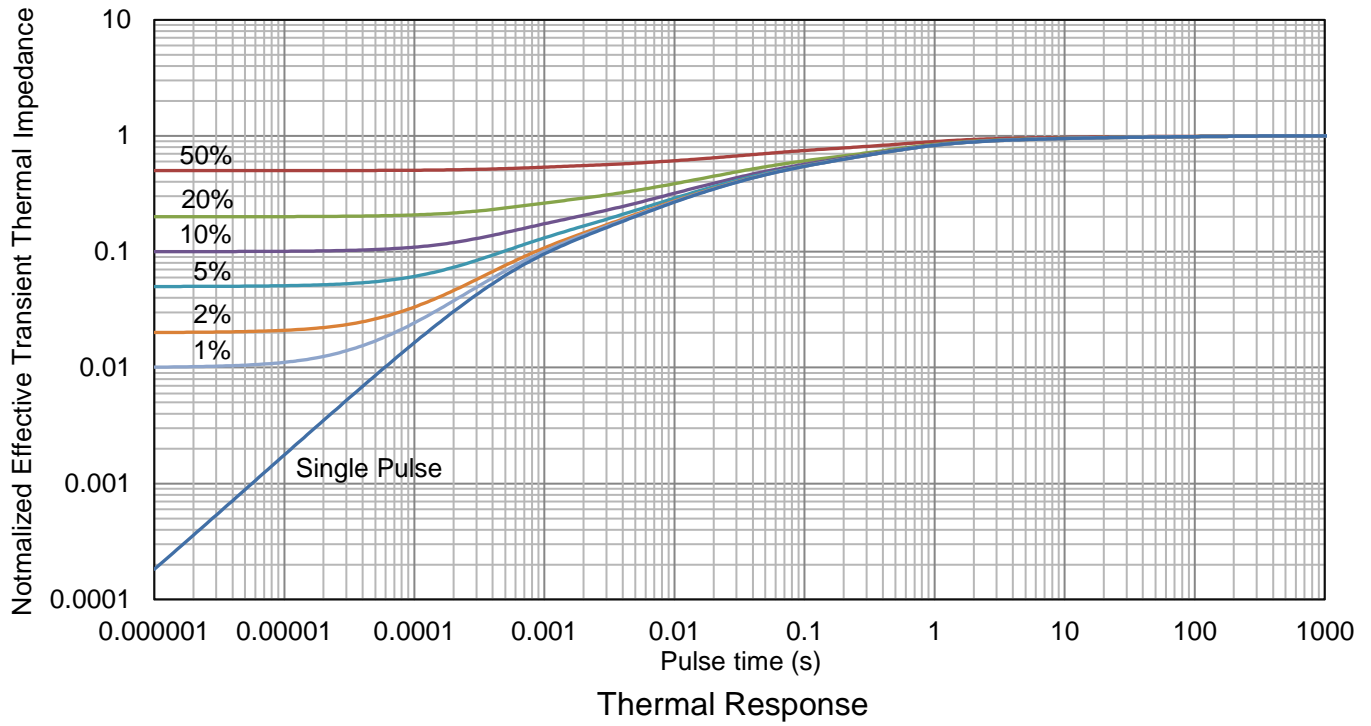


VGS vs. Qg



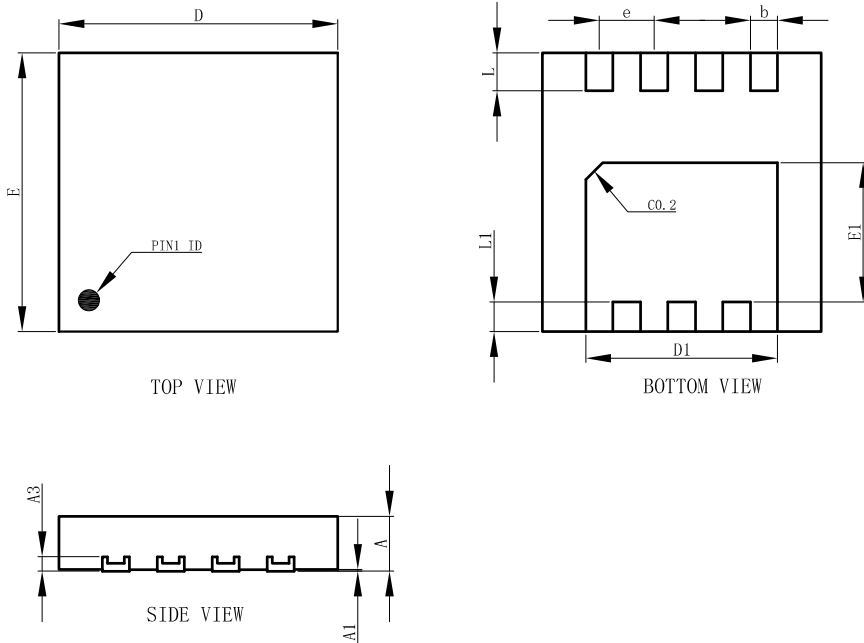
Safe Operating Area

7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS

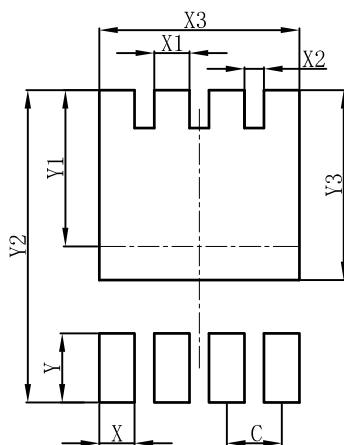
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DFN3333-8A			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

9. SOLDERING FOOTPRINT

DFN3333-8A



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

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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