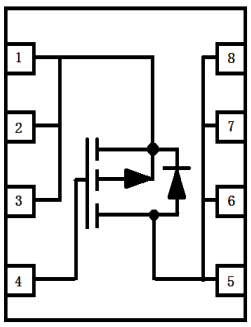
PB8615D

P-Channel 60-V (D-S) MOSFET

DFN3333-8A



1. FEATURES

- Low RDS(on) trench technology
- Low thermal impedance
- Fast switching speed
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
PB8615D	A15	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	-60	V
Gate-Source Voltage		VGS	±20	
Continuous Drain Current (Note1)	TA = 25℃	ID	-7	A
	TA = 70℃		-5	
Pulsed Drain Current (Note2)		IDM	-20	
Continuous Source Current (Diode Conduction) (Note1)		IS	-1.6	
Avalanche Current(L=0.1mH)		IAS	12.6	
Avalanche Energy(L=0.1mH)		EAS	8	mJ
Power Dissipation (Note1)	TA = 25℃	PD	2.9	W
	TA = 70℃		1.8	
Operating Junction and Storage Temperature Range		TJ,Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient (Note1)	t ≤10 s	RθJA	45	℃/W
	Steady State		95	

1.Surface Mounted on 1” x 1” FR4 Board.

2.Pulse width limited by maximum junction temperature

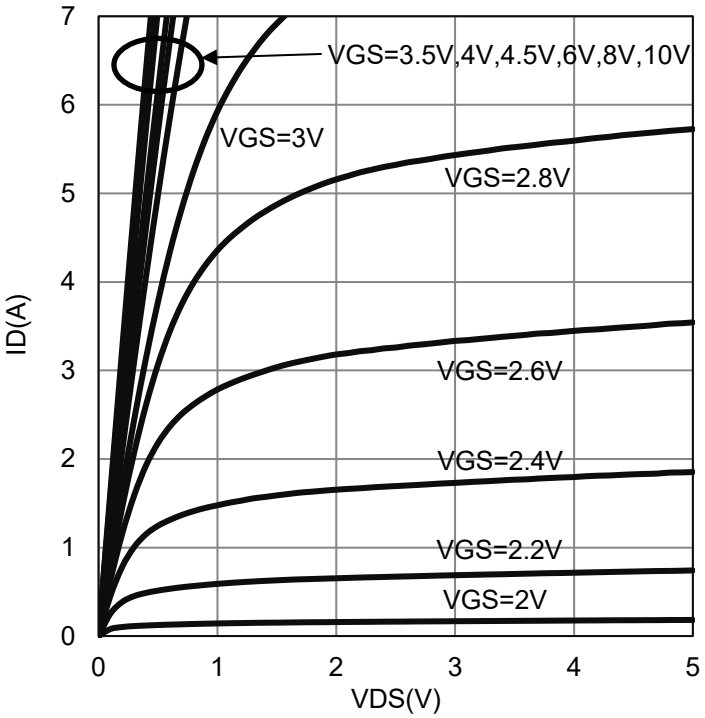
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Gate Threshold Voltage (VDS =VGS , ID =-250μA)		VGS(th)	-1	-1.5	-3	V
Gate Leakage Current (VDS =0V, VGS =±20V)		IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V) (VDS = -48 V, VGS = 0 V, TJ = 55°C)		IDSS	- -	- -	-1 -10	μA
On-State Drain Current(Note 3) (VDS = -5 V, VGS = -10 V)		ID(on)	-7.5	-	-	A
Drain-Source On-Resistance(Note 3) (VGS = -10 V, ID = -4 A) (VGS = -4.5 V, ID = -3.2 A)		RDS(ON)	- -	64 78	82 100	mΩ
Forward Transconductance(Note 3) (VDS = -15 V, ID = -4 A)		gfs	-	9	-	S
Diode Forward Voltage (Note 3) (IS = -2.1 A, VGS = 0 V)		VSD	-	-0.83	-	V
Dynamic(Note 4)						
Total Gate Charge	(VDS = -30 V, VGS = -4.5 V,ID = -4 A)	Qg	-	9	-	nC
Gate-Source Charge		Qgs	-	2.5	-	
Gate-Drain Charge		Qgd	-	3.5	-	
Turn-On Delay Time	(VDS = -30 V, RL = 7.5 Ω,ID = -4 A,VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	7	-	ns
Rise Time		tr	-	5	-	
Turn-Off Delay Time		td(off)	-	37	-	
Fall Time		tf	-	14	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1099	-	pF
Output Capacitance		Coss	-	68	-	
Reverse Transfer Capacitance		Crss	-	55.2	-	
Gate-Resistance (VDS=0V,VGS=0V,f=1MHz)		Rg	-	6.8	-	Ω

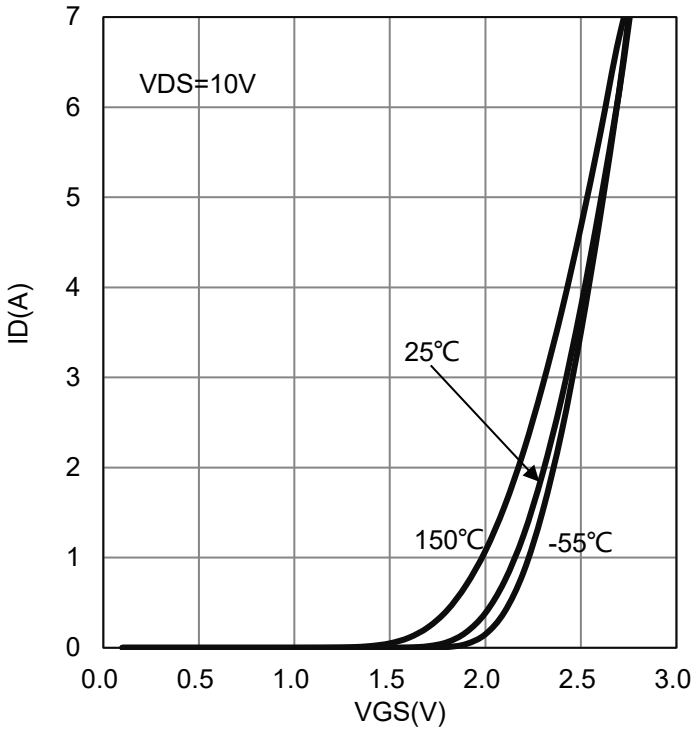
3.Pulse test: PW≤ 300us duty cycle ≤ 2%.

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

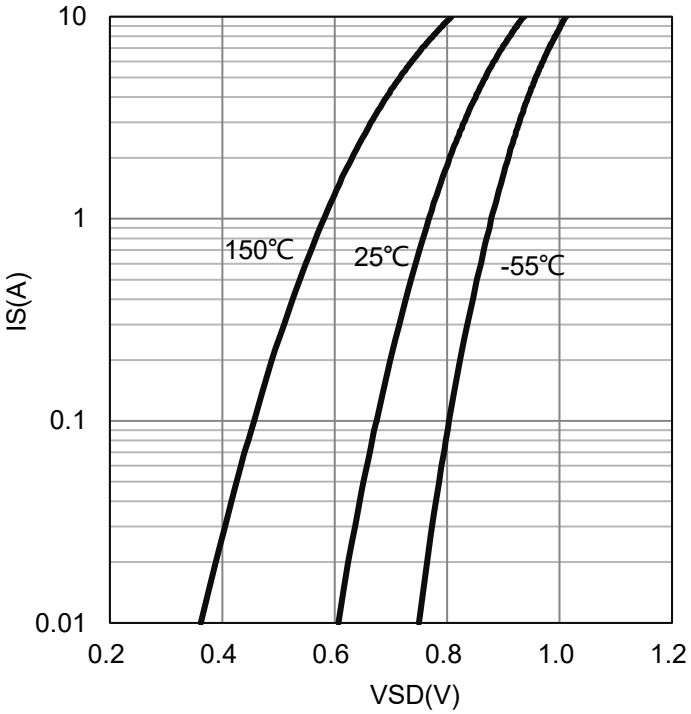
7.ELECTRICAL CHARACTERISTICS CURVES



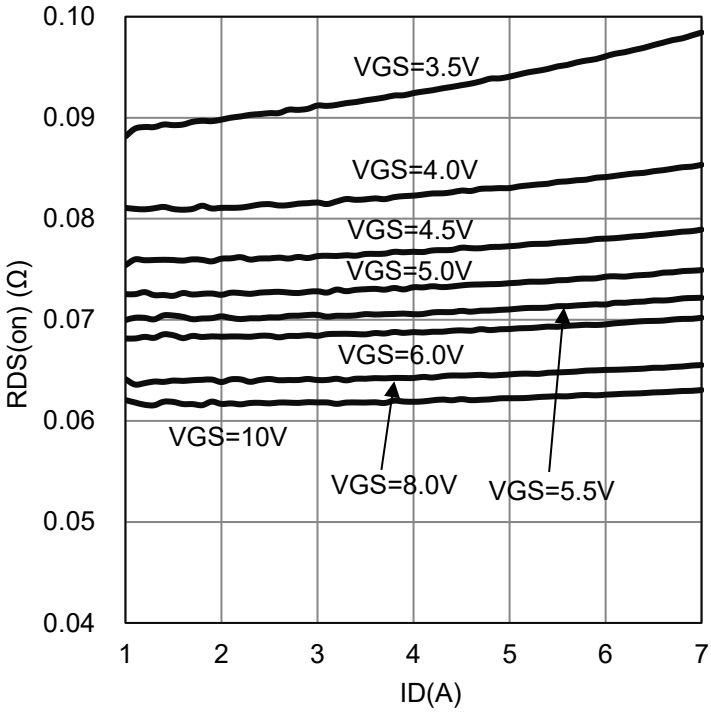
ID vs. VDS



ID vs. VGS

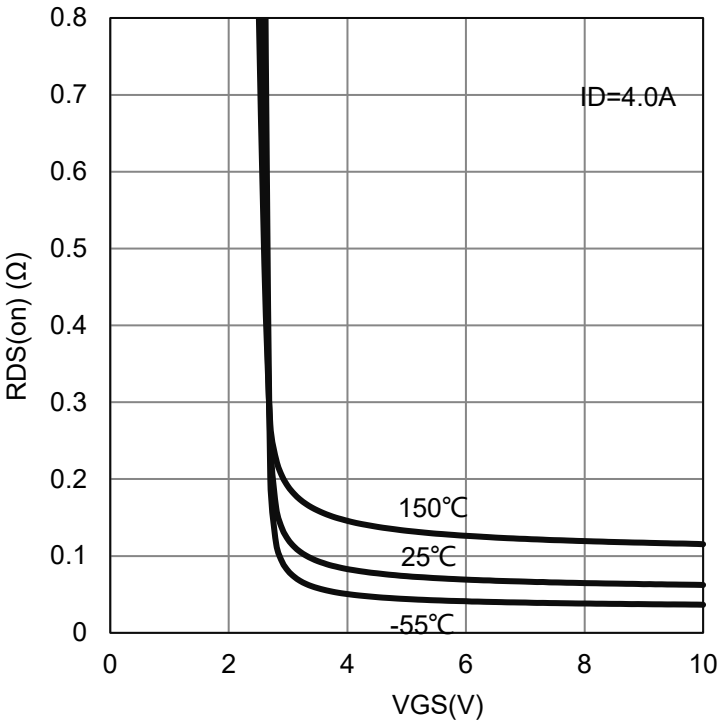


IS vs. VSD

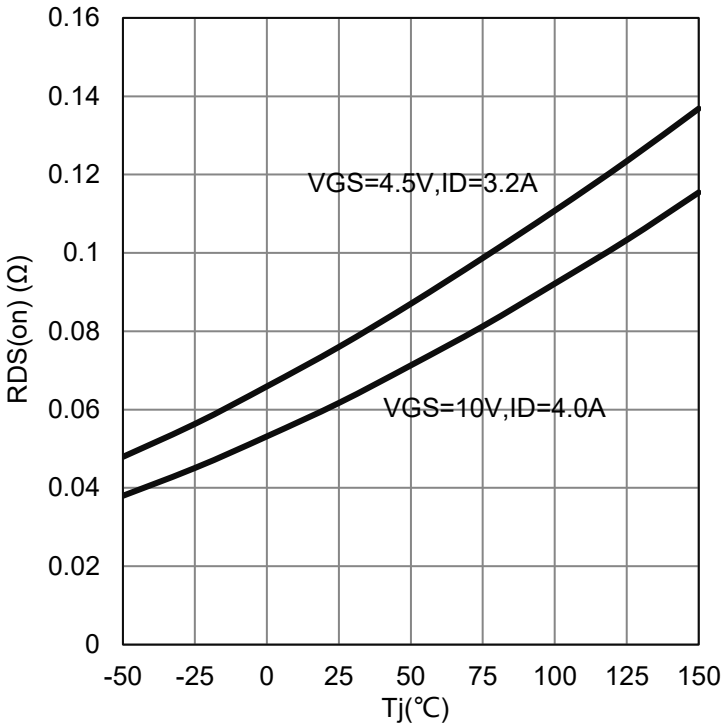


RDS(on) vs. ID

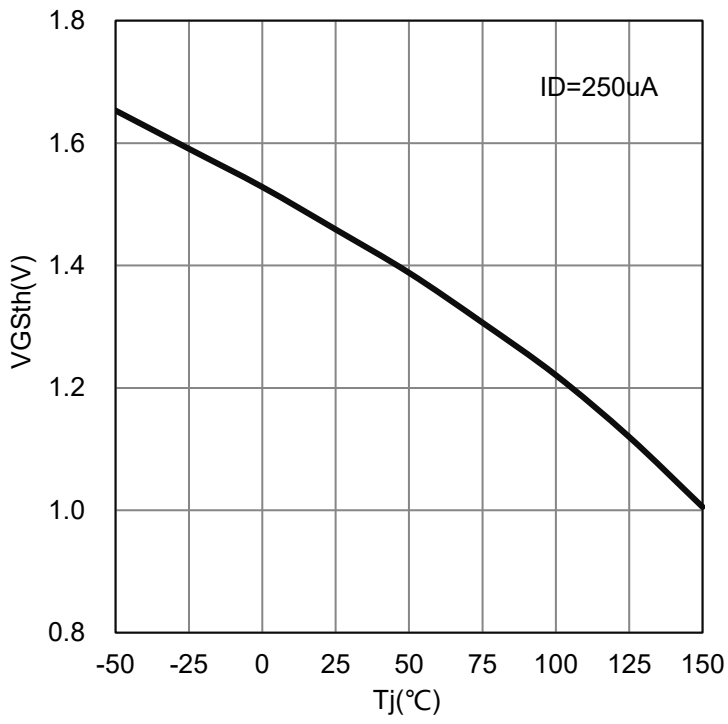
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



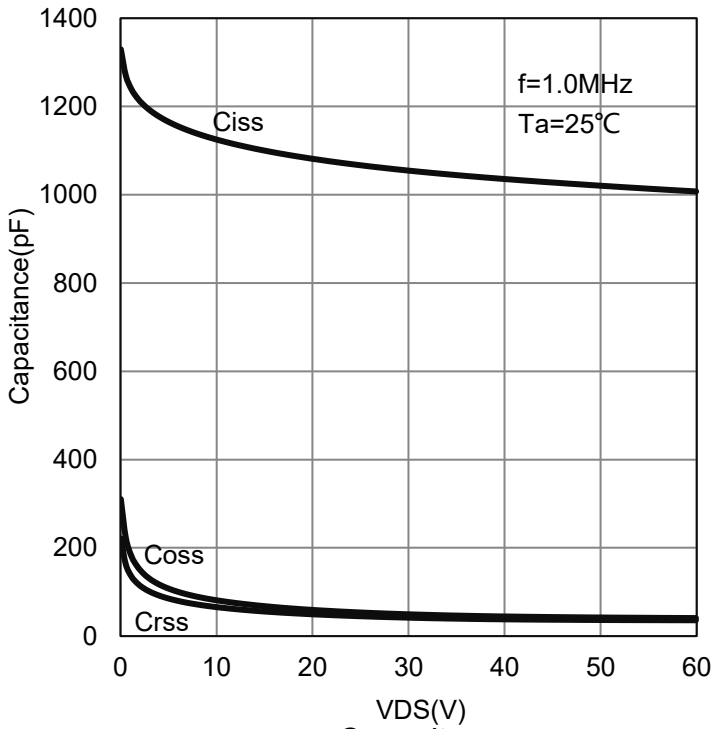
RDS(on) vs. VGS



RDS(on) vs. Tj

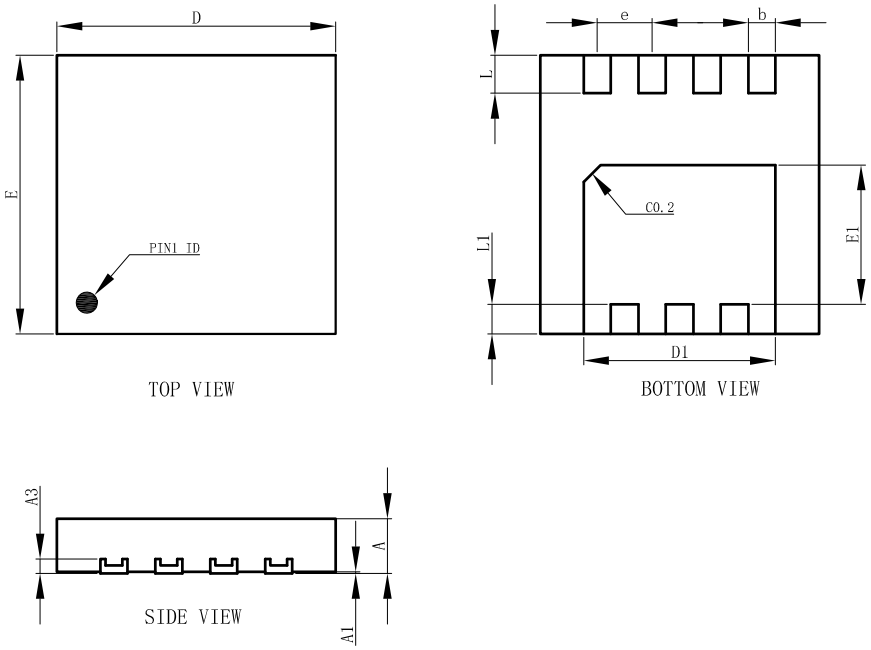


VGSTH vs. Tj



Capacitance

8.OUTLINE AND DIMENSIONS



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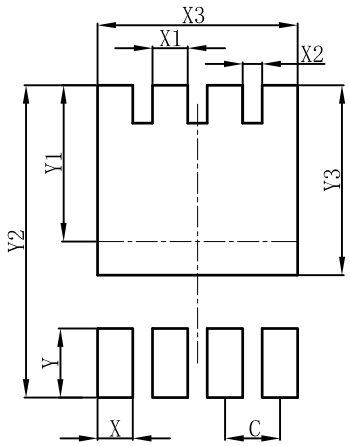
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

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