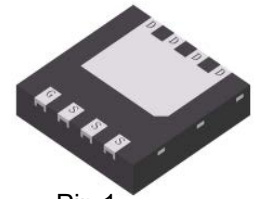


PB89167D

P-Channel 150-V Enhancement MOSFET



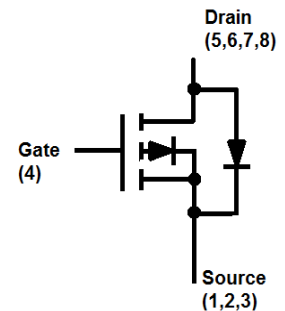
Pin 1
DFN3333-8A

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
PB89167D	P67	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	-150	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC =25°C	ID	-11	A
	TC =100°C		-8.5	
	TA =25°C		-3.5	
	TA =100°C		-2.7	
Pulsed Drain Current(Note 2)		IDM	-14	A
Avalanche Current		IAS	36	A
Avalanche energy(L=0.1mH)		EAS	64.8	mJ
Power Dissipation (Note 1)	TC =25°C	PD	20	W
	TA =25°C		2.5	
Operating Junction and Storage Temperature Range		TJ , TSTG	-55~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	50	°C/W
Maximum Junction-to-Ambient(Note 3)	RθJA	180	
Maximum 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
- 3.Surface-mounted on FR4 board using the minimum recommended pad size.



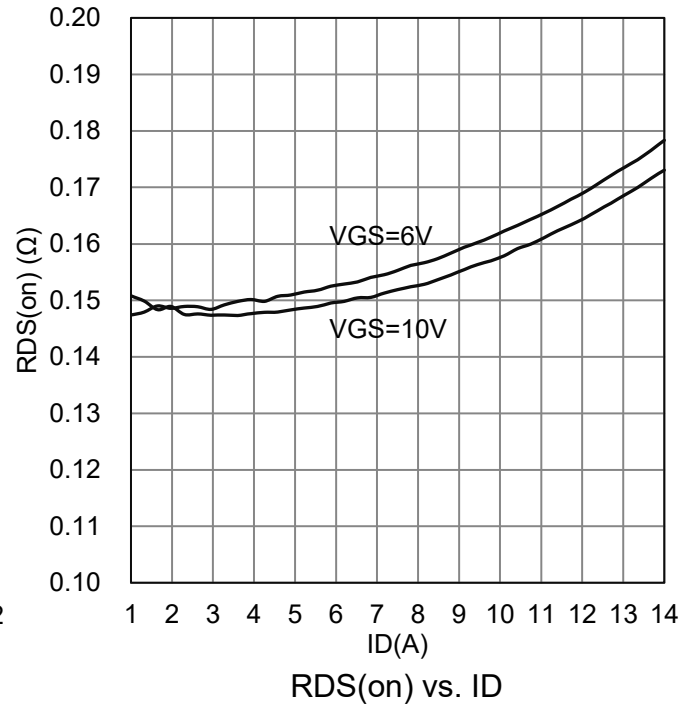
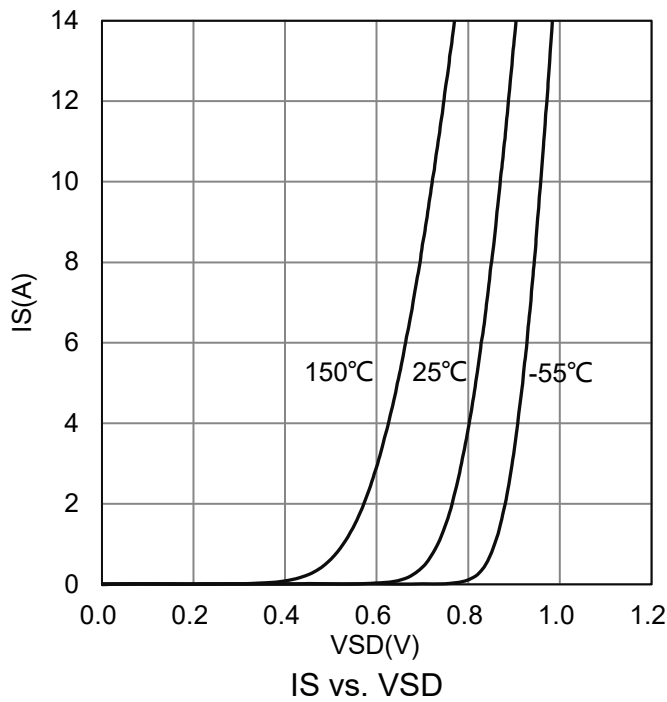
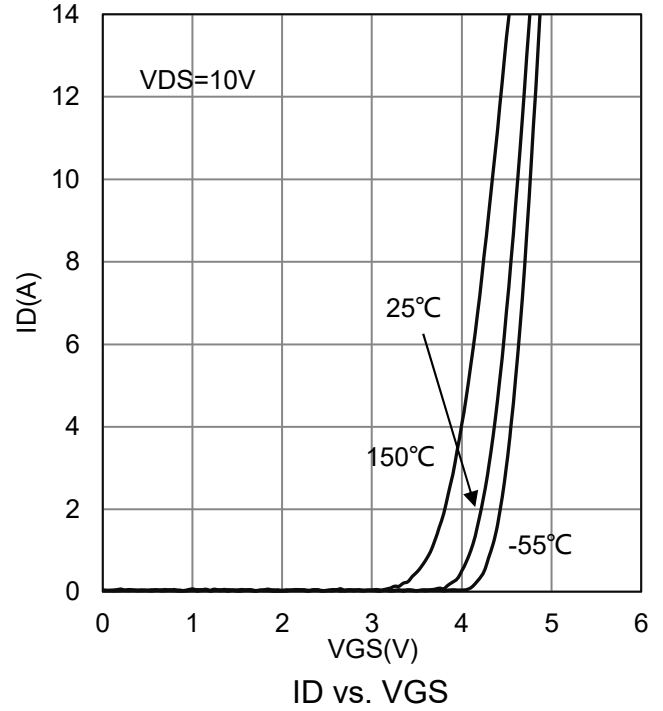
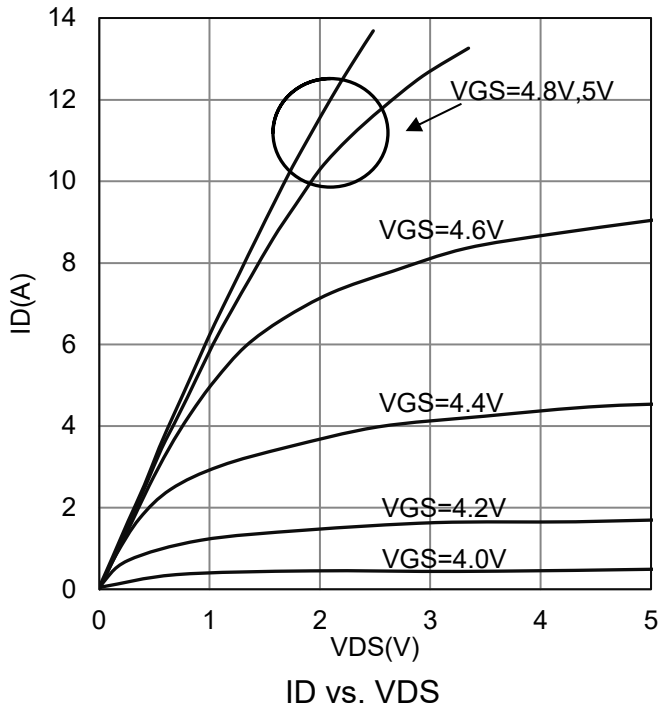
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

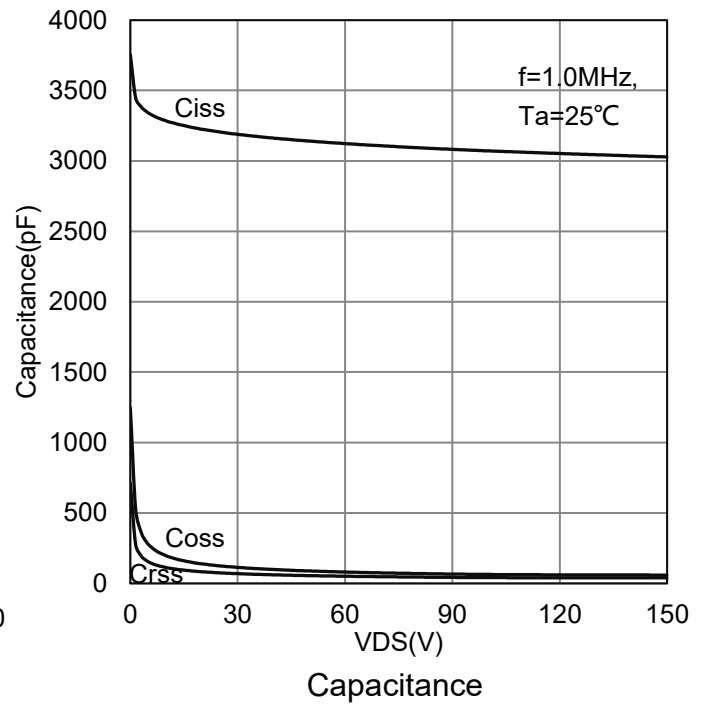
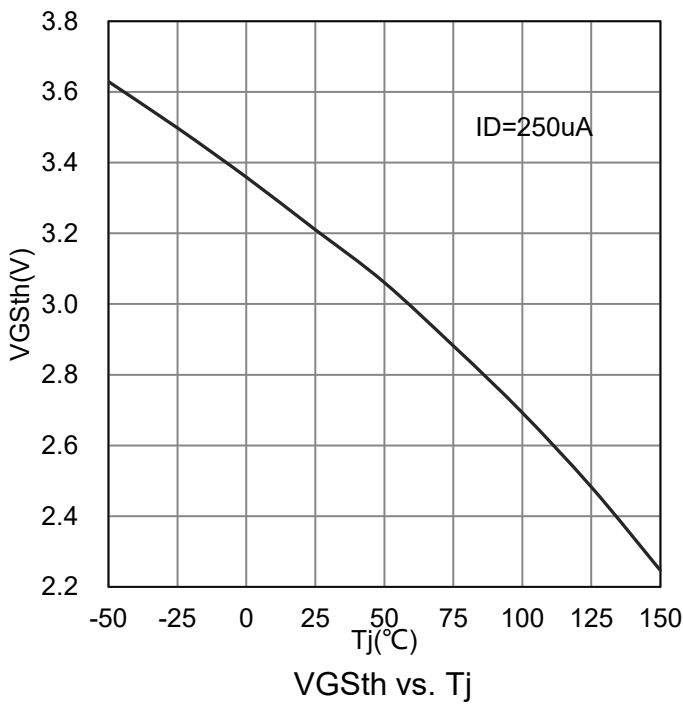
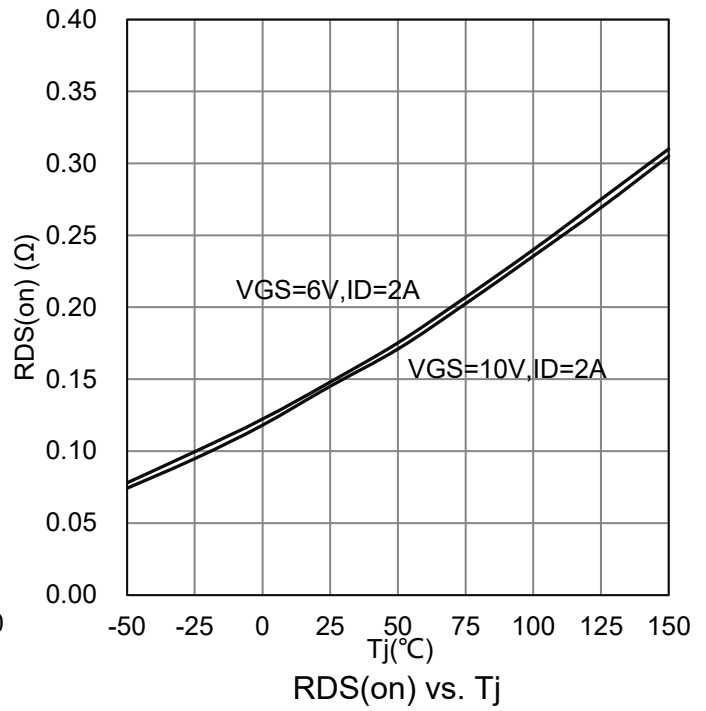
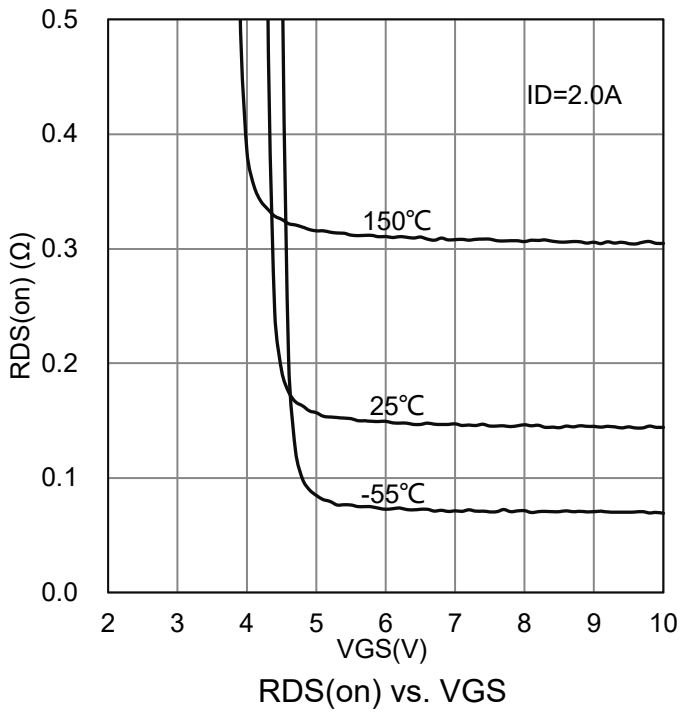
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-150	-	-	V	
Gate Threshold Voltage (VDS =VGS , ID =-250μA)	VGS(th)	-2	-3	-4	V	
Gate Leakage Current (VDS =0V, VGS =±20V)	IGSS	-	-	±100	nA	
Zero Gate Voltage Drain Current (VDS = -150 V, VGS = 0 V)	IDSS	-	-	-1	μA	
Drain-Source On-Resistance(Note 4) (VGS = -10 V, ID = -2 A) (VGS = -6 V, ID = -2 A)	RDS(ON)	-	136 140	167 173	mΩ	
Diode Forward Voltage (Note 4) (IS = -1 A, VGS = 0 V)	VSD	-	-	-1.5	V	
Dynamic(Note 4)						
Total Gate Charge	(VDS = - 75V, VGS = - 10V, ID = - 2 A)	Qg	-	54	-	nC
Gate-Source Charge		Qgs	-	12	-	
Gate-Drain Charge		Qgd	-	14	-	
Turn-On Delay Time	(VDS = -75 V, RL = 7.5 Ω, ID = -10 A, VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	TBD	-	ns
Rise Time		tr	-	TBD	-	
Turn-Off Delay Time		td(off)	-	TBD	-	
Fall Time		tf	-	TBD	-	
Input Capacitance	(VDS = -75 V, VGS = 0 V, f = 1 MHz)	Ciss	-	3100	-	pF
Output Capacitance		Coss	-	72	-	
Reverse Transfer Capacitance		Crss	-	46	-	

4.Pulse test: PW ≤ 300μs duty cycle ≤ 2%.

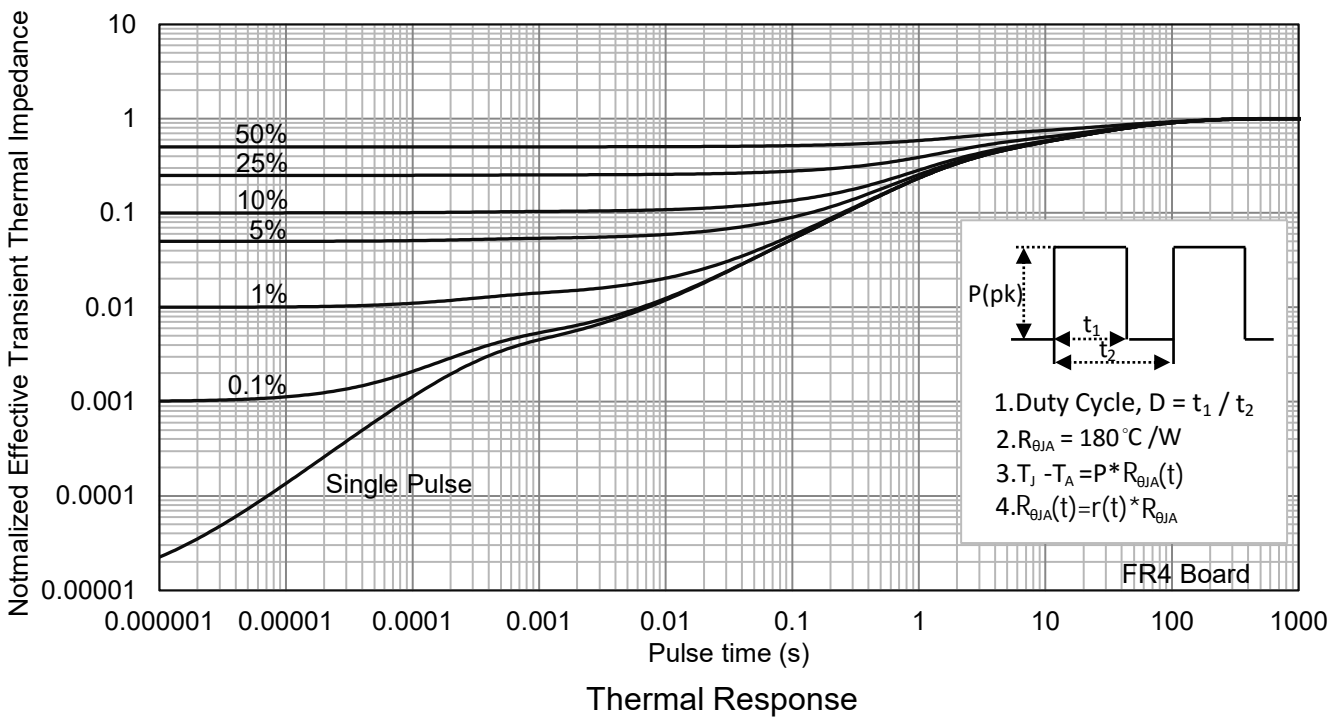
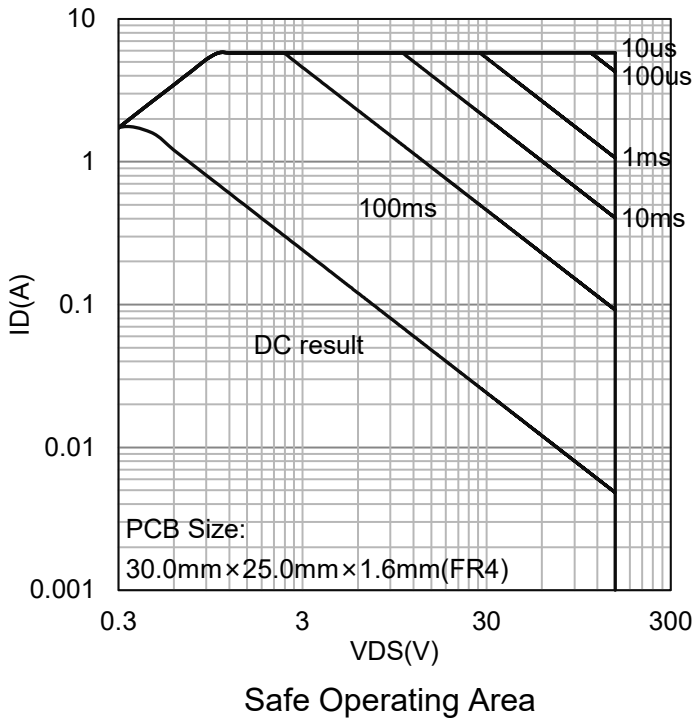


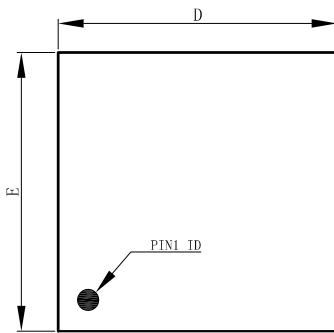
7. ELECTRICAL CHARACTERISTICS CURVES



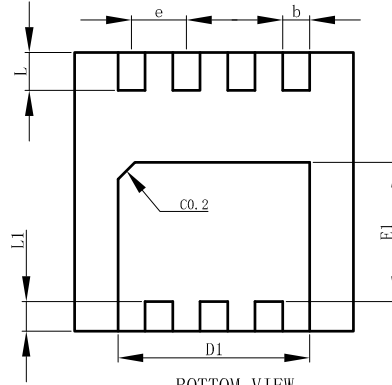
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)


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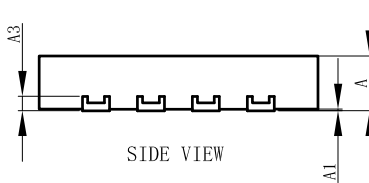


8.OUTLINE AND DIMENSIONS
DFN3333-8A


TOP VIEW

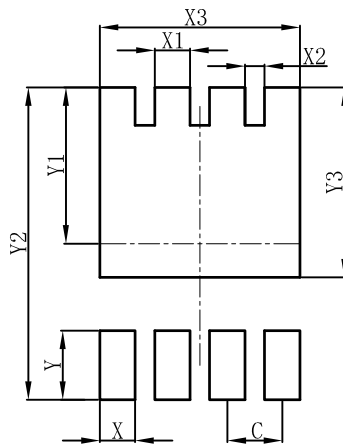


BOTTOM VIEW



SIDE VIEW

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

