/ Descriptions

PDFN3×3-8L N MOS

Double N-CHANNEL MOSFET in a PDFN3×3-8L Plastic Package.

/ Features

N-channel

VDS(V)=30V

ID=20A

RDS(ON)<25mΩ(VGS=10V)

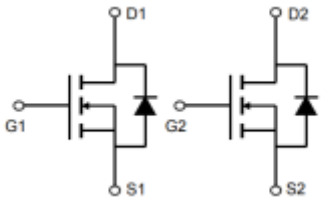
RDS(ON)<40mΩ(VGS=4.5V)

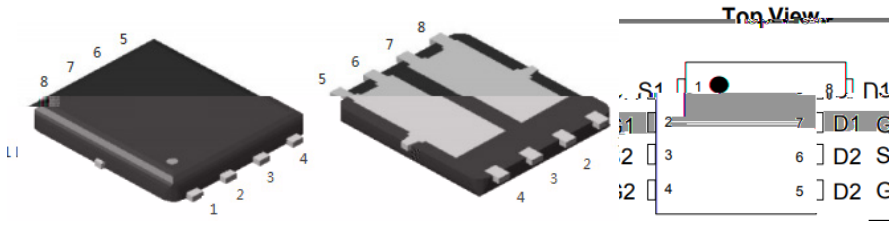
Halogen-free Product.

/ Applications

Intended for use in general purpose switching and phase control applications.

/ Equivalent Circuit





/ Marking

See Marking Instructions.

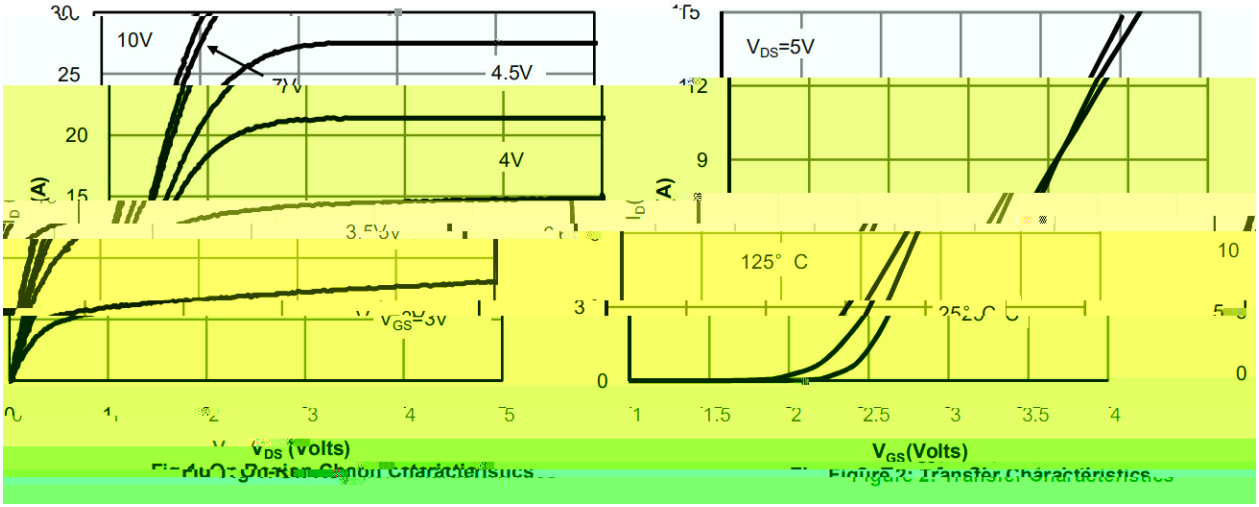
/ Absolute Maximum Ratings(Ta=25)

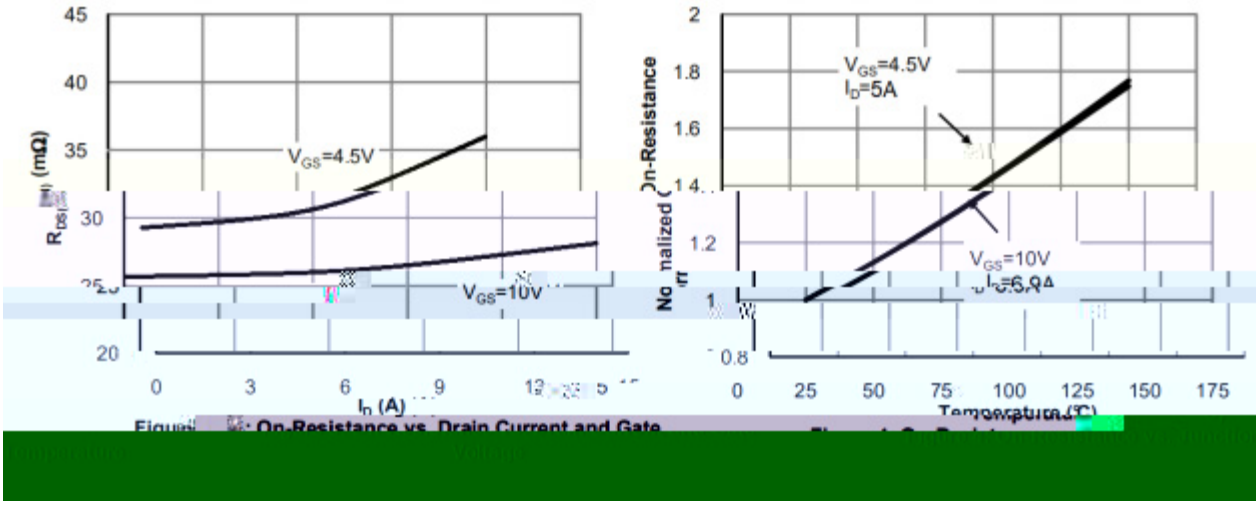
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	±20	V
Continuous Drain Current	I_D (T_A=25)	20	A
Power Dissipation	P_D (T_A=25)	11.2	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	
Maximum Junction-to-Case	$R_{\theta JC}$(Steady-State)	11.2	/W
Maximum Junction-to-Ambient	$R_{\theta JA}$(Steady-State)	45	/W

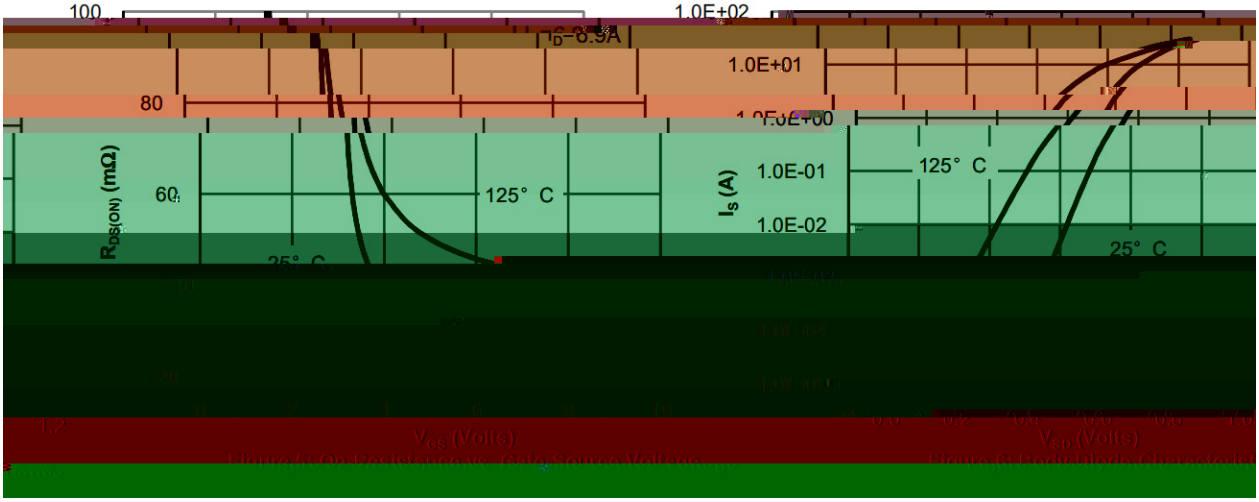
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V	V_{GS}=0V			1.0	μA
Gate-Body leakage current	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=6.9A		20	25	mΩ
		V_{GS}=4.5V	I_D=5.0A		28	40	mΩ
Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=1.0A		0.78	1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V f=1.0MHz	V_{GS}=0V		690		pF
Output Capacitance	C_{oss}				200		pF
Reverse Transfer Capacitance	C_{rss}				130		pF
Gate resistance	R_g	V_{DS}=0V f=1.0MHz	V_{GS}=0V		2.7		Ω
Total Gate Charge(10V)	Q_g	V_{GS}=10V I_D=6A	V_{DS}=15V		5.2		nC
Total Gate Charge(4.5V)					2.5		nC
Gate-Source Charge	Q_{gs}				0.8		nC
Gate-Drain Charge	Q_{gd}				1.3		nC
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=15 V R_L=2.5Ω	V_{GS}=10V R_{GEN}=3Ω		4.5		ns
Turn-On Rise Time	t_r				2.5		ns
Turn-Off Delay Time	$t_{d(off)}$				14.5		ns
Turn-Off Fall Time	t_f				3.5		ns

/ Electrical Characteristic Curve







/ Electrical Characteristic Curve

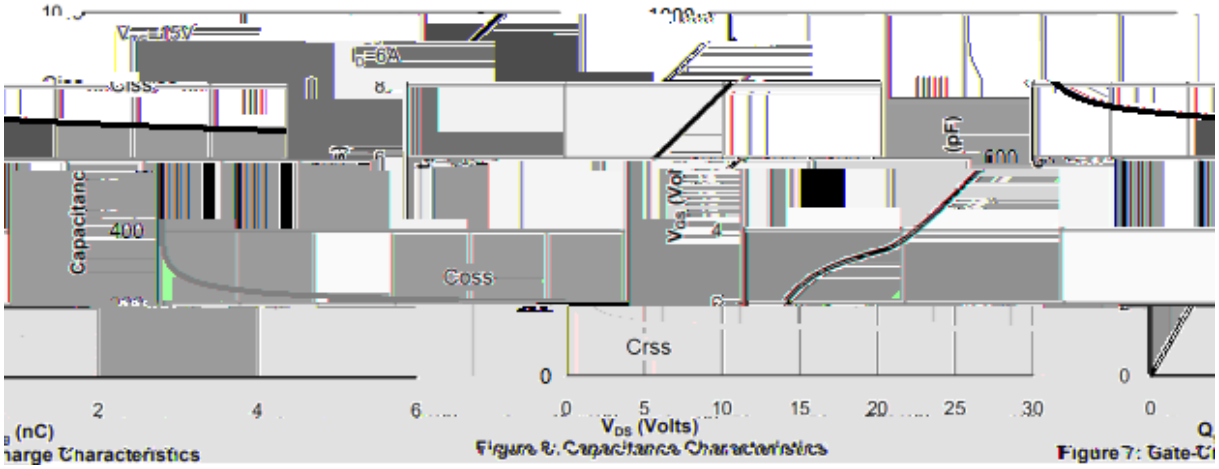
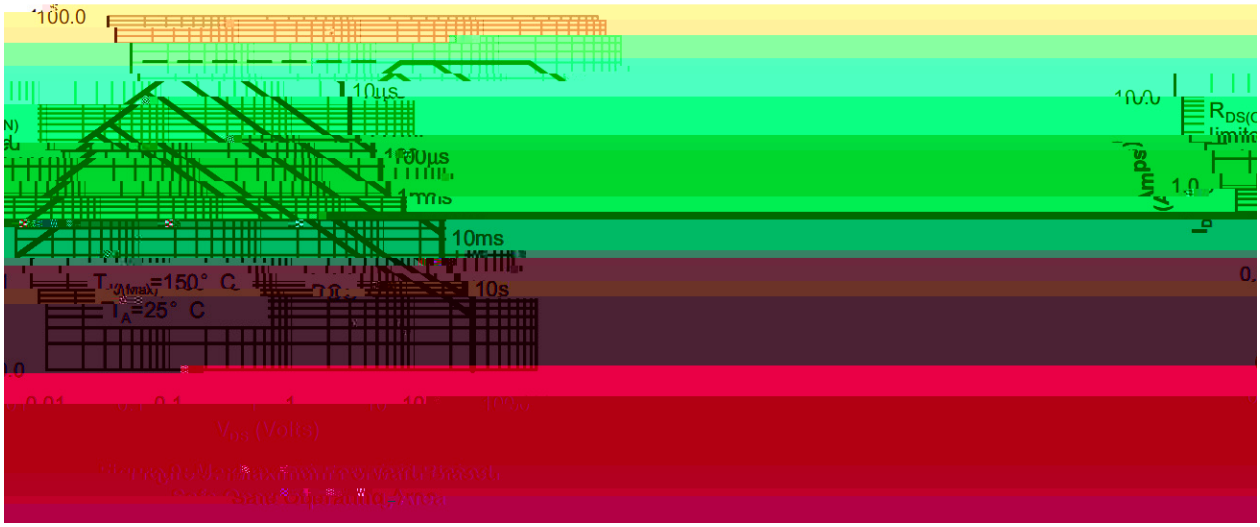


Figure 8: Capacitance Characteristics

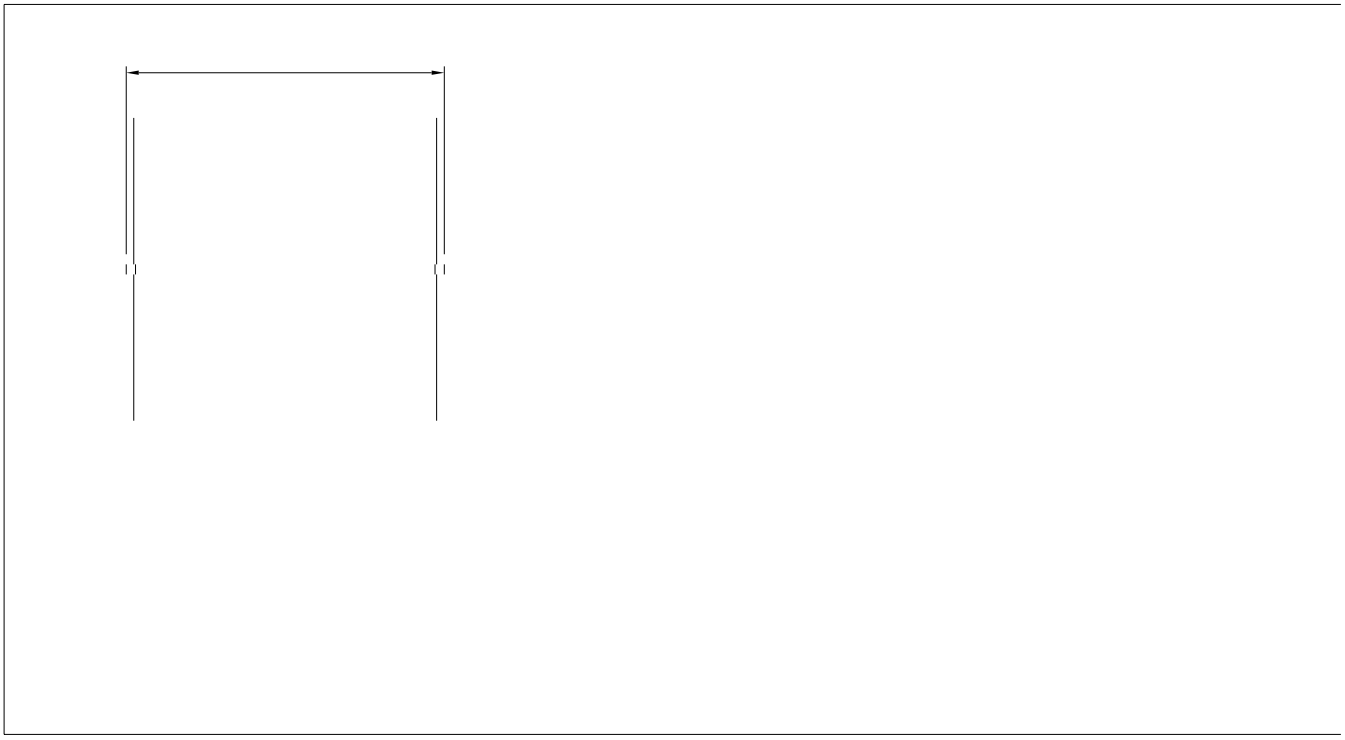
Figure 7: Gate-C



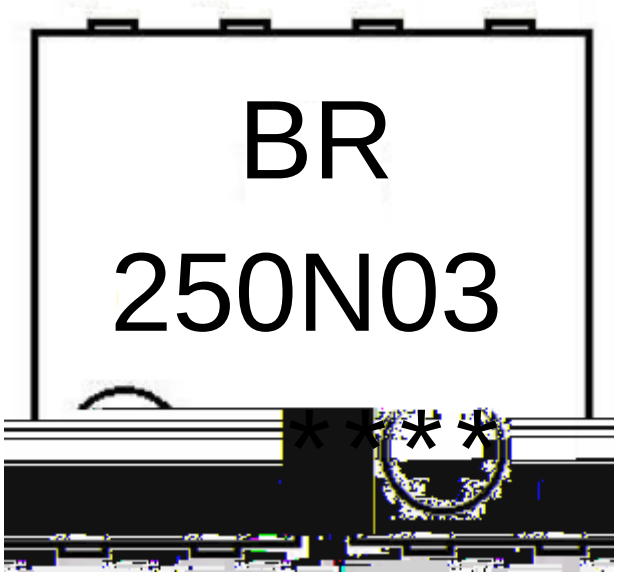
/ Package Dimensions

PDFN3X3-8L

Unit:mm



/ Marking Instructions



BR

250N03

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Note:

BR:	Company Code
250N03:	Product Type Code
****:	Lot No. Code, code change with Lot No

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

Note:

1	150	180	60 90sec;	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.

/ Resistance to Soldering Heat Test Conditions

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
PDFN 3 × 3-8L	5,000	2	10,000	6	60,000	13 ×12	360×360×50	380×335×366

/ Notices