PDFN5 ˜6 / x N ?ú 3 « | • ’ ož
N-Channel MOSFET in a PDFN5 h 6 Plastic Package .

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Low R

Ã a ? d / Absolute Maximum Ratings(T a=25 ;)

@ ƒ Parameter		… Z Symbol	ƒ › Rating	% y Unit
Drain-Source Voltage		V_{DS}	60	V
Continuous Drain Current		I_D	123	A
Pulsed Drain Current		I_{DM}	253	A
Gate-Source Voltage		V_{GS}	f 20	V
Power Dissipation		$P_D(T_c=25$)	83	W
Avalanche energy(L=0.5mH)		E_{AS}	2000	mJ
Avalanche Current(L=0.5mH)		I_{AS}	47	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	-
Maximum Junction-to-Ambient	t 0 10s	R ©JA	20	/ W
	Steady-State		50	
Maximum Junction-to-Case	Steady-State	R ©JC	1.5	

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	60	77		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V			1.0	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A		2.8	3	m S
		V_{GS}=4.5V, I_D=20A		3.8	5	
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V		0.64	1	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		3710		pF
Output Capacitance	C_{oss}			2100		
Reverse Transfer Capacitance	C_{rss}			230		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		2.3		
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V, V_{DS}=30V, I_D=20A		51		nC
Total Gate Charge	$Q_{g(4.5V)}$			25		
Gate Source Charge	Q_{gs}			10		
Gate Drain Charge	Q_{gd}			8.5		

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=30V R_L=1.5 ¡ R_{GEN}=3 ¡		11		ns
Turn-On Rise Time	t_r			6		
Turn-Off Delay Time	$t_{d(off)}$			43		
Turn-Off Fall Time	t_f			2		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

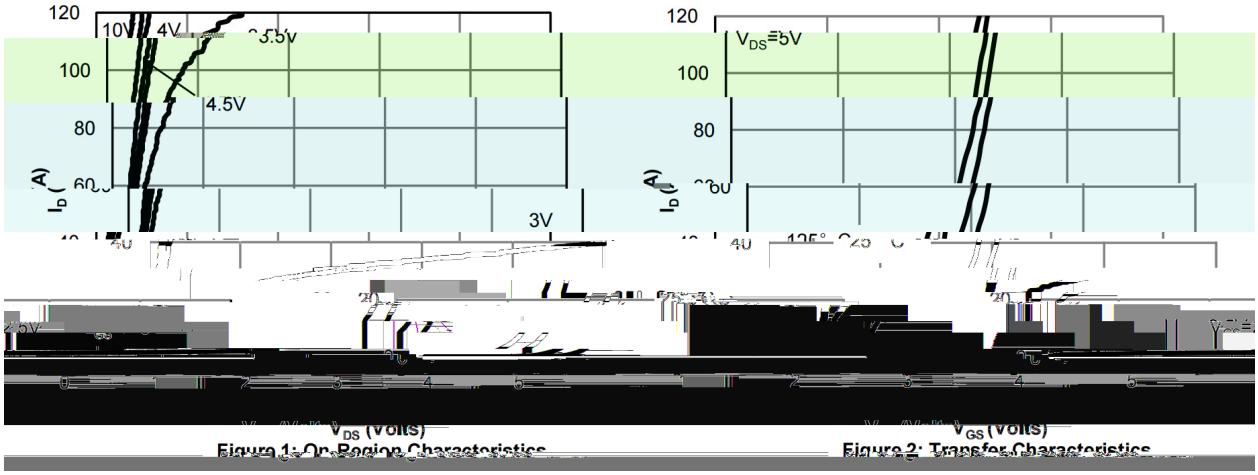


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

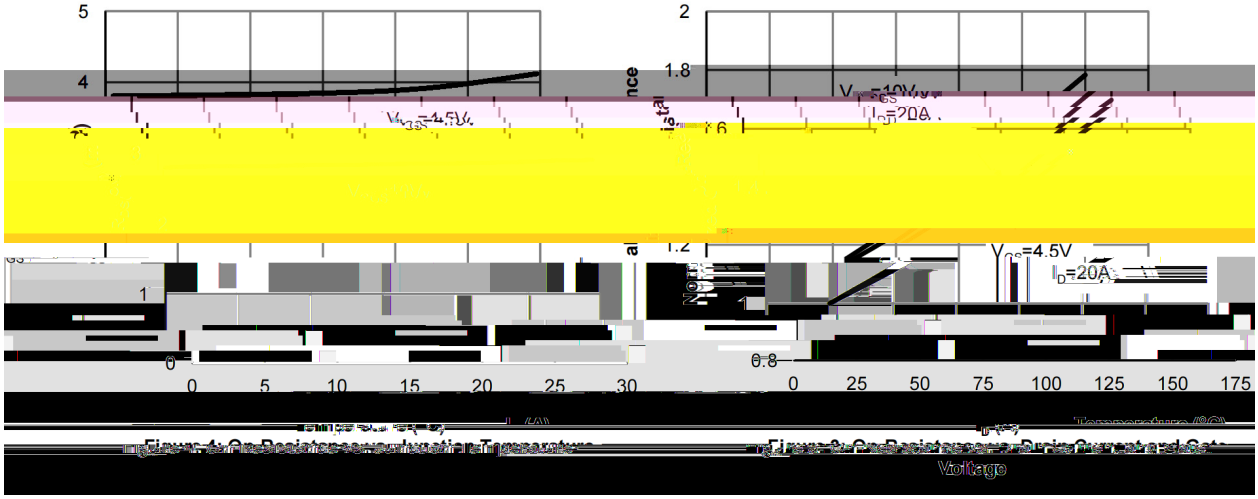


Figure 3: On-Resistance vs. Junction Temperature

Figure 4: On-Resistance vs. Drain Current and Gate Voltage

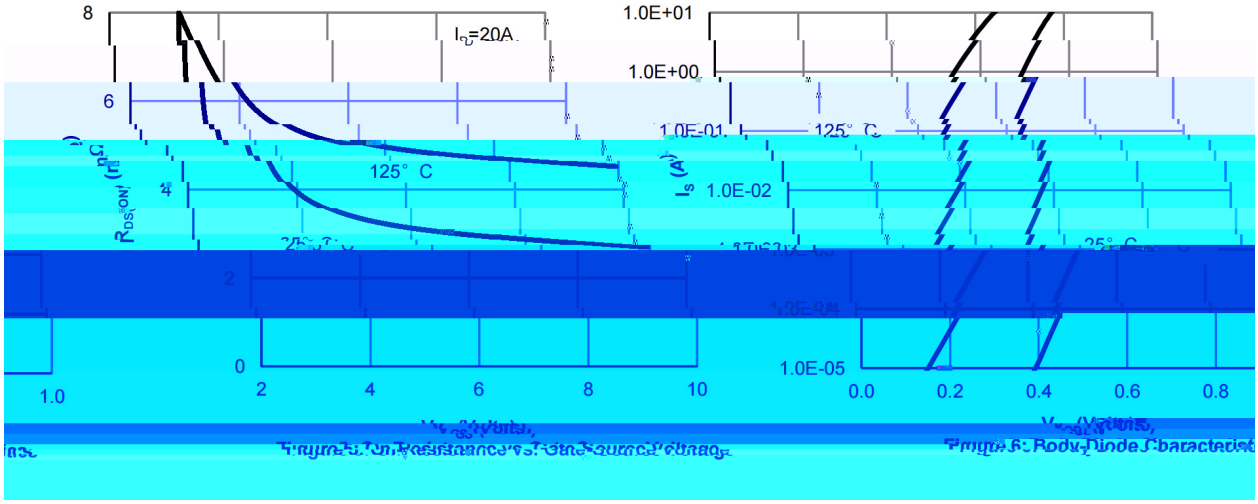
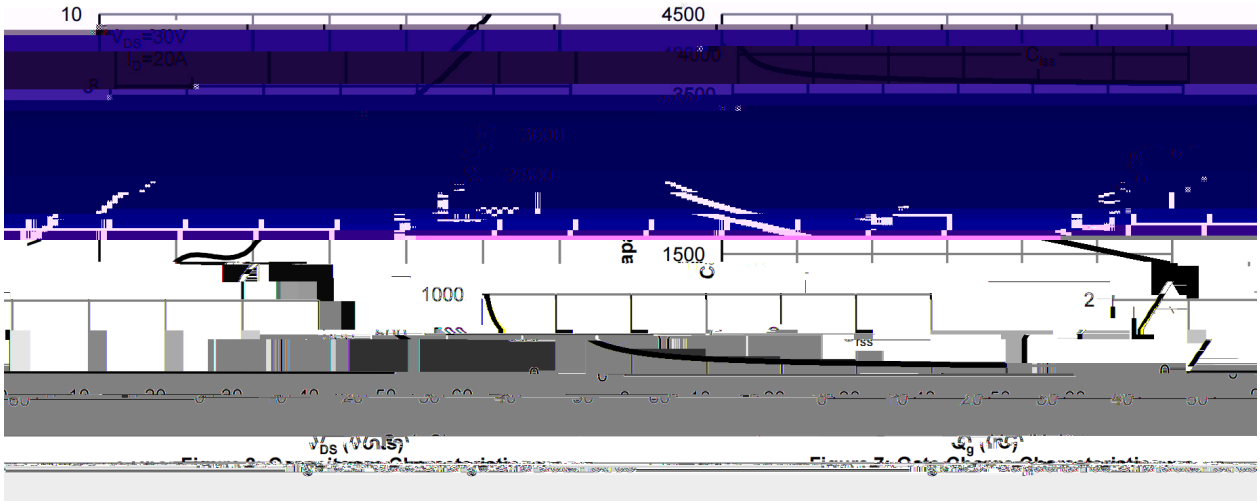


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

Ô ? d • Ž ¢ / Electrical Characteristic Curve



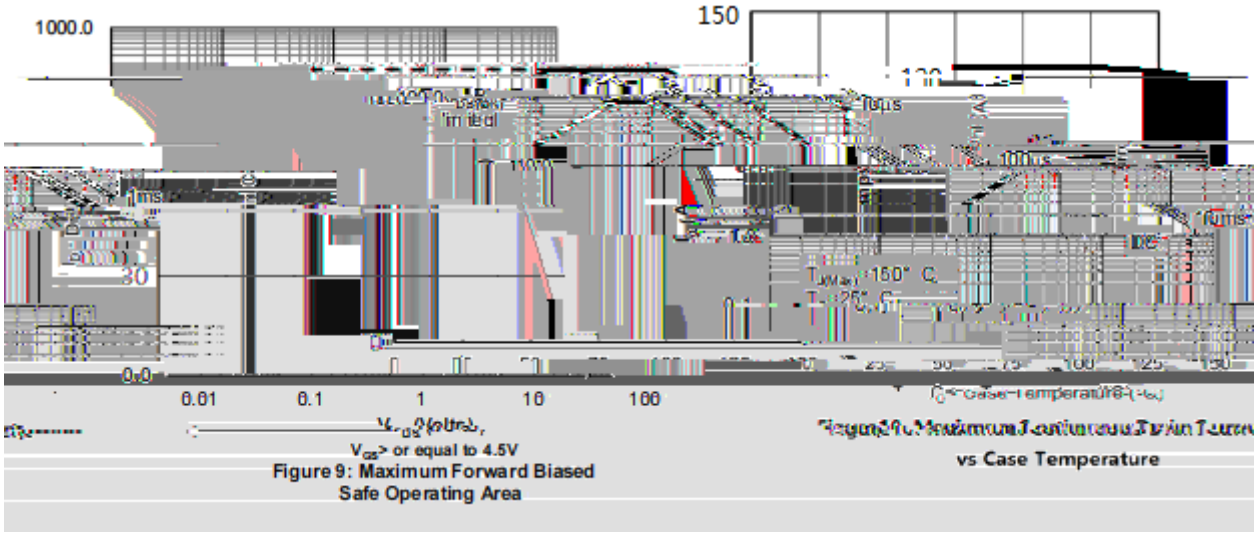
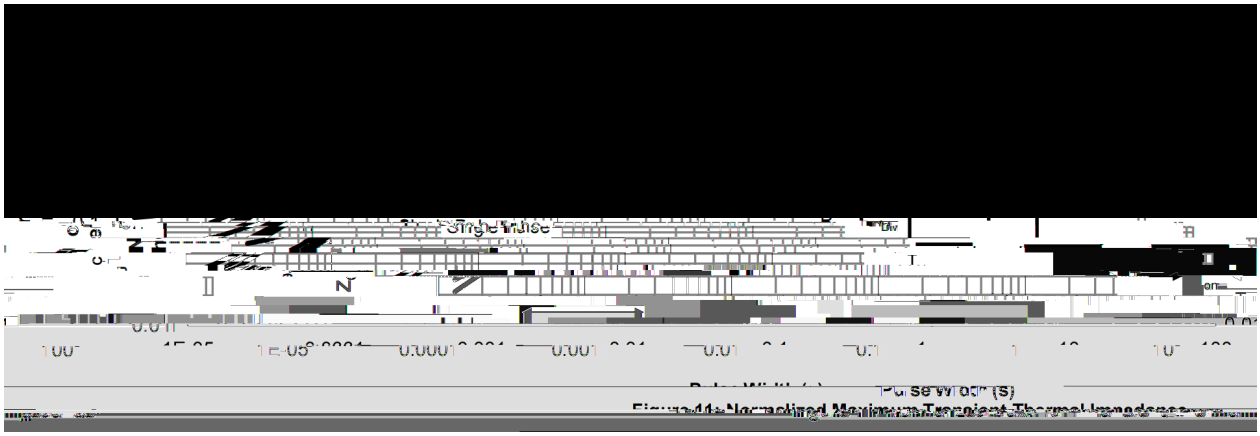


Figure 9: Maximum Forward Biased Safe Operating Area

vs Case Temperature



Ø ¤ =) ¢ / Package Dimensions



, M y ƒ / Marking Instructions

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(8 y ¸ [W A

030N06S y D } º Z

y ÿ D –ä } 3 ú –ä }T}Qqð…q•†•€ WpÐ “y 03N

š WD t … • Ž ¢ (x /) / Temperature Profile for IR Reflow Soldering(Pb-Free)

ª ¢ y

1o• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:150~180 - , Time:60~90sec.

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 - ž • y 10 r1 sec. Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type / x ¥ ”	Units ;>û ¦H	Dimension ;>û p . (unit Æmm³)