

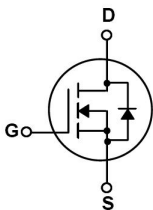
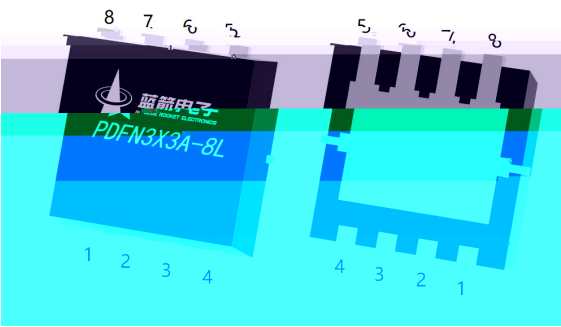
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N-Channel Enhancement Mode Field Effect Transistor in a PDFN 3~3A-8L Plastic Package.

□ a / Feats

$V_{DS} (V) = 40V$ $I_D = 57A (V_{GS} = \pm 20V)$
 $R_{DS(ON)}@10V \text{ } ^\circ 5mR(Typ.4.5mR)$
 $R_{DS(ON)}@4.5V \text{ } ^\circ 10mR(Typ.6.2mR)$
—)í D } ÄHF Product.

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Load Switch Applications,Battery Power Management.



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See Marking Instructions.

BRCS050N04YB

Rev.A Jul.-2023



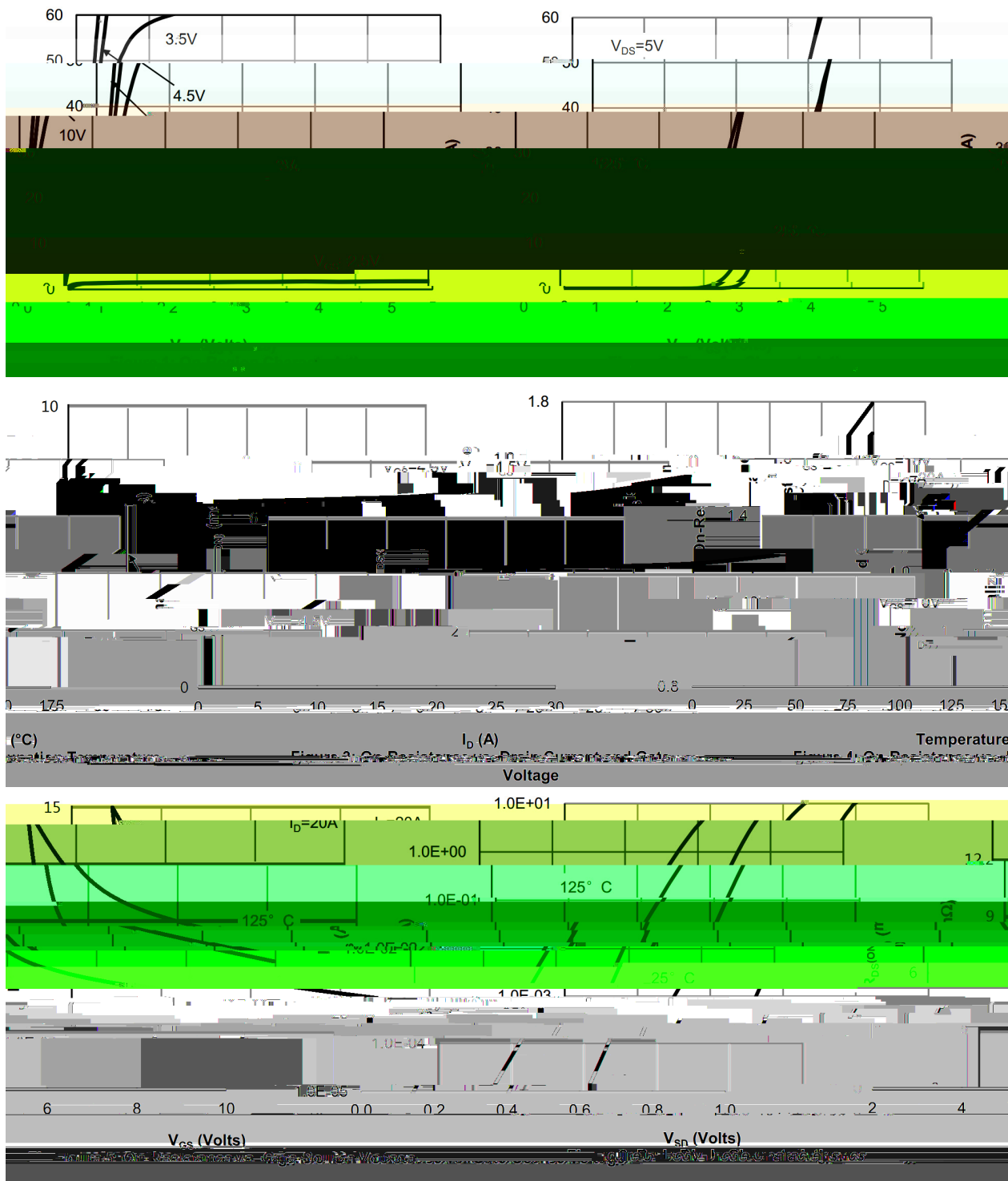
DATA SHEET

$@ f$ Parameter	$\dots Z$ Symbol	$f >$ Rating	$\% y$ Unit
Drain-Source Voltage	V_{DS}	40	V
Drain Current	I_D		

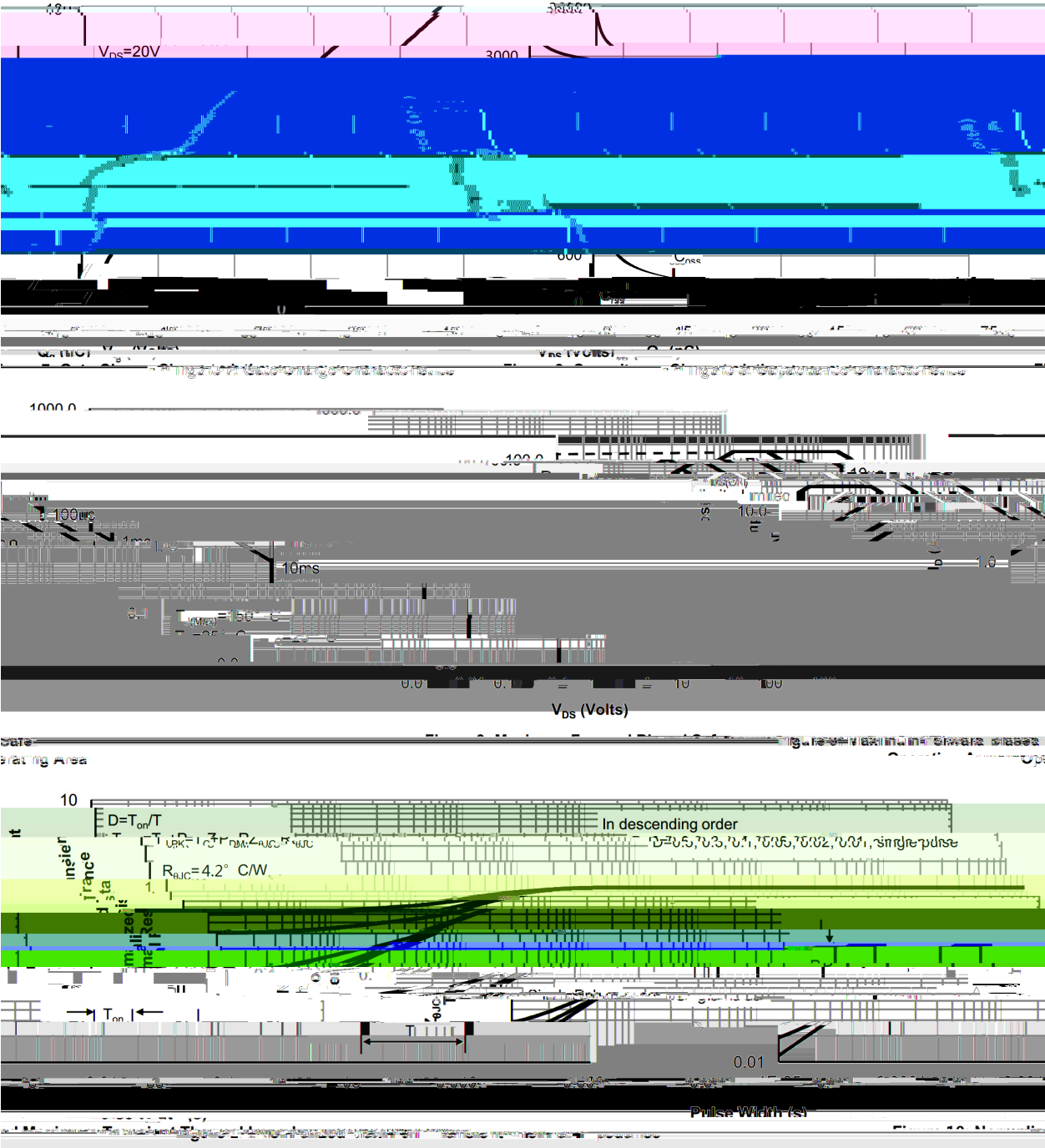
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	40	43		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40V$ $V_{GS}=0V$			1	nA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.7	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20mA$		4.5	5	mΩ
		$V_{GS}=4.5V$ $I_D=10mA$		6.2	10	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2900		pF
Output Capacitance	C_{oss}			210		
Reverse Transfer Capacitance	C_{rss}			200		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		2.5		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=20V$ $I_D=20mA$		70		nC
Total Gate Charge	$Q_{g(4.5V)}$			15		
Gate Source Charge	Q_{gs}			15		
Gate Drain Charge	Q_{gd}			22		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_L=1\Omega$ $R_{GEN}=3.0\Omega$		15		ns
Turn-On Rise Time	t_r			30		
Turn-Off Delay Time	$t_{d(off)}$			54		
Turn-Off Fall Time	t_f			20		

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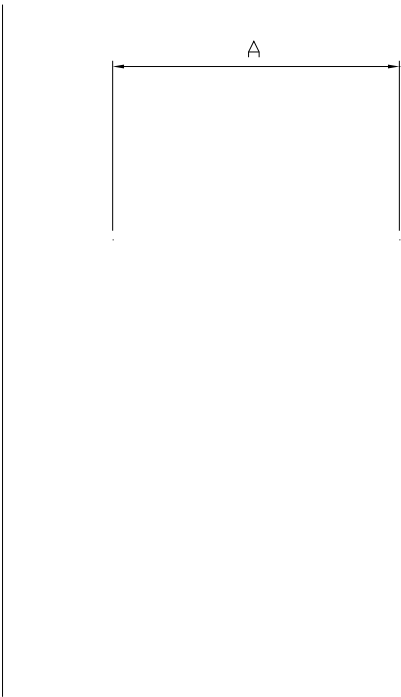
Electrical Characteristics



Ø □ =) ¢ / Packag Dim

PDFN3X3A-8L

Unit:mm



Rev.00

BRCS050N04YB

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DATA SHEET

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Note:

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