

# BRD15N10

Rev. J Jul.-2019

DATA SHEET

**/ Absolute Maximum Ratings(Ta=25 )**

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		$V_{DSS}$	100	V
Drain Current		$I_D(Tc=25)$	15	A
Drain Current		$I_D(Tc=100)$	10	A
Drain Current - Pulsed*		$I_{DM}$	45	A
Gate-Source Voltage		$V_{GS}$	$\pm 20$	V
Single Pulsed Avalanche Energy		$E_{AS}$	90	mJ
Avalanche Current		$I_{AS}$	9.1	A
Power Dissipation		$P_D(Tc=25)$	39	W
Operating and Storage Temperature Range		$T_j T_{stg}$	-55 150	
Junction-to-Ambient	t 10s	$R_{JA}$	20	/W
Junction-to-Ambient	Steady-State		50	
Junction-to-Case	Steady-State	$R_{JC}$	3.2	

\*Repetitive rating; pulse width limited by max. junction temperature.

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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250$ A	100			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=100V$ $V_{GS}=0V$			1.0	A
		$T_J=125$			50	
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 20V$ $V_{DS}=0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250$ A	1	1.9	3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=8.5A$		75	90	m
		$T_J=125$		142		
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=15A$		1.0	1.2	V
Gate resistance	$R_g$	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		1.3		
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		250		pF
Output Capacitance	$C_{oss}$			125		pF
Reverse Transfer Capacitance	$C_{rss}$			20		pF
Total Gate Charge(10V)	$Q_g$	$V_{GS}=10V$ $V_{DS}=50V$ $I_D=5A$		5.8		nC
Total Gate Charge(4.5V)	$Q_g$			2.8		nC
Gate Source Charge	$Q_{gs}$			1.1		nC
Gate Drain Charge	$Q_{gd}$			1.2		nC

Turn-On Delay Time

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/ Electrical Characteristic Curve

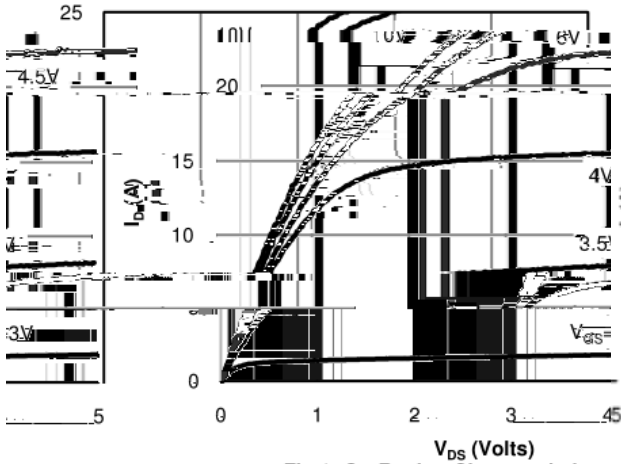


Fig 1: On-Region Characteristics

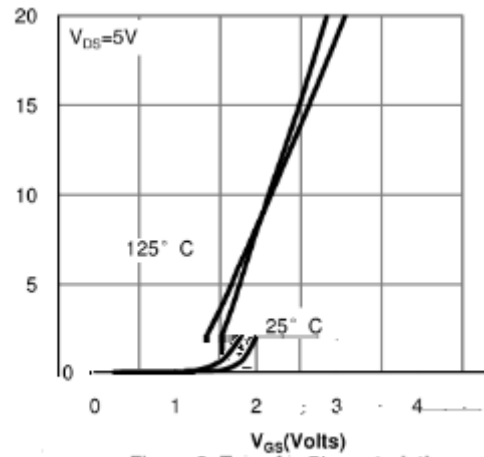


Figure 2: Transfer Characteristics

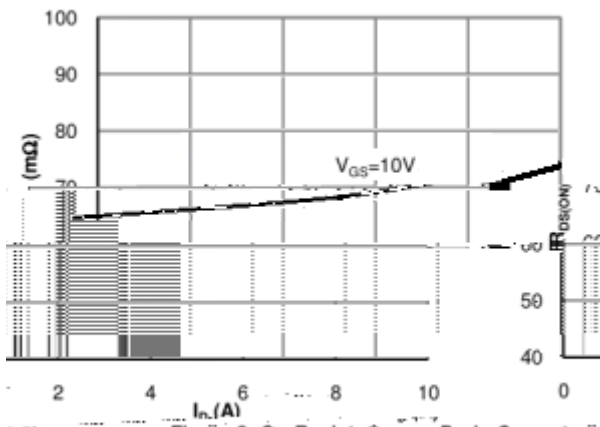


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

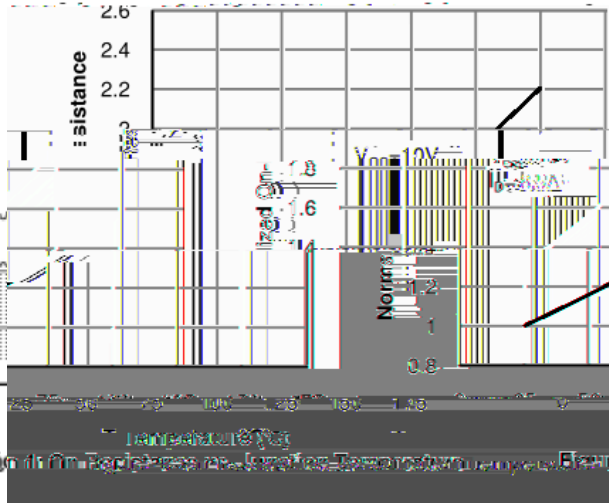


Figure 4: On-Resistance vs. Drain-Source Voltage

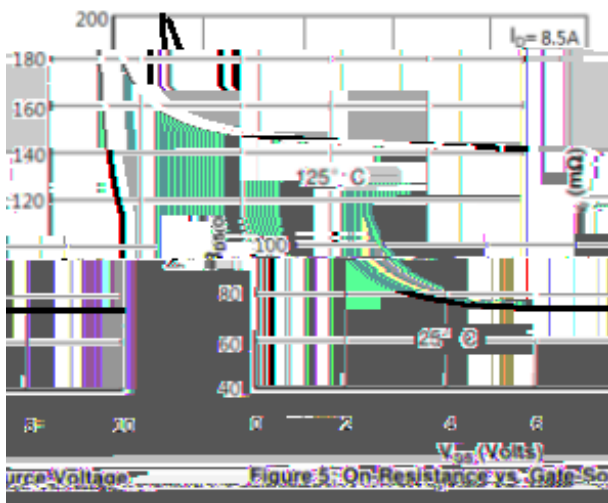


Figure 5: On-Resistance vs. Gate-Source Voltage

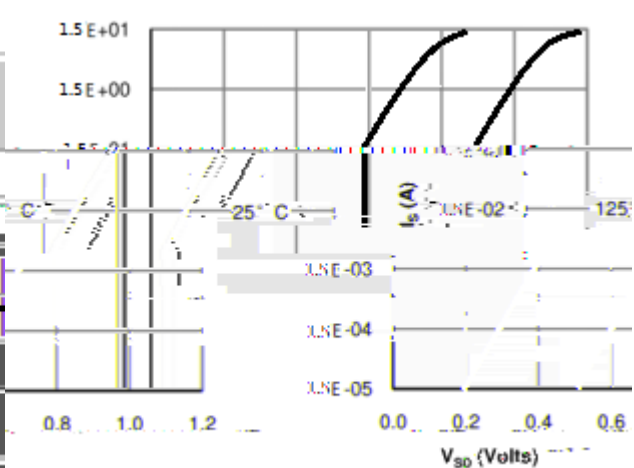
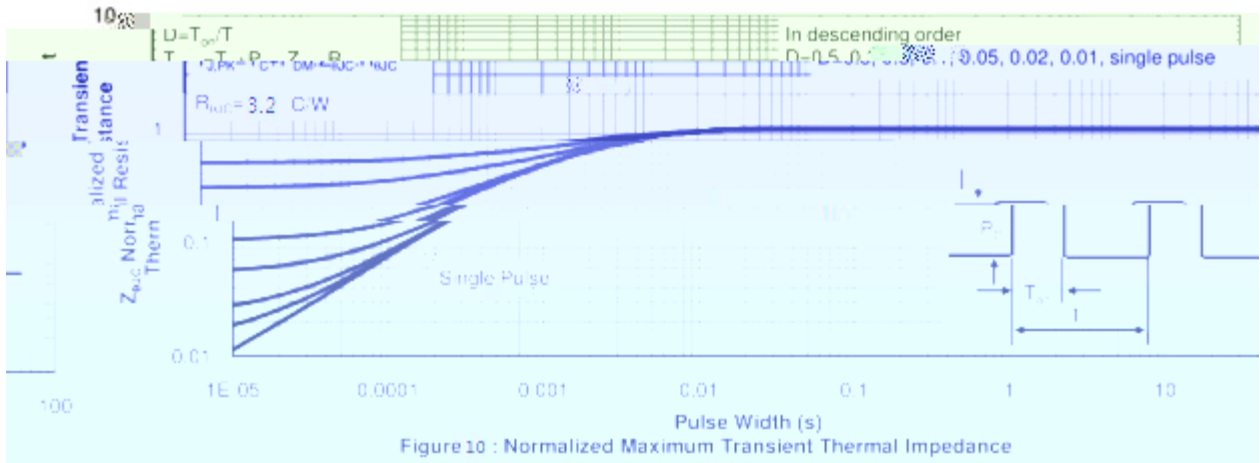
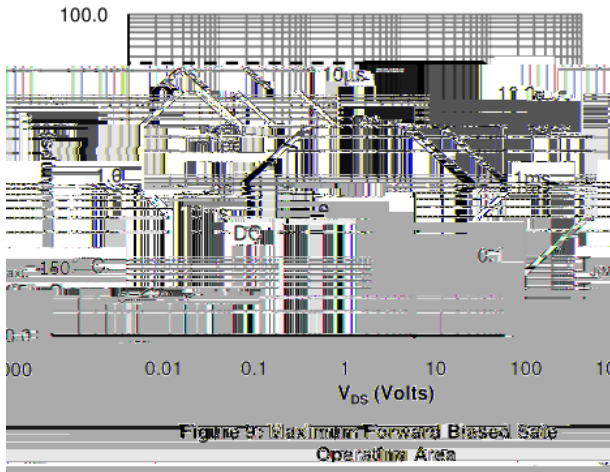
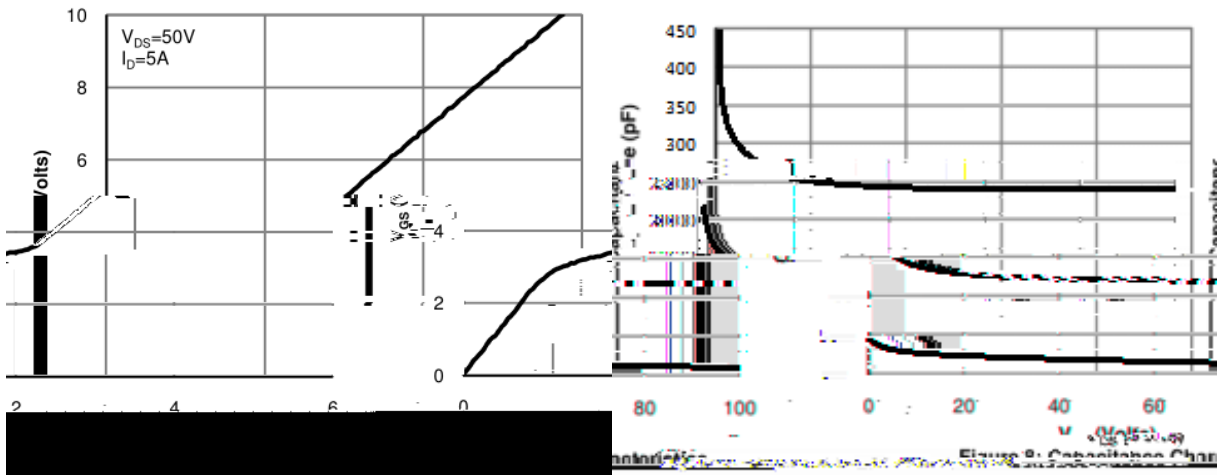


Figure 6: Body-Diode Characteristic

**/ Electrical Characteristic Curve**



/ Package Dimensions

