

BRCS080N02ZJ

Rev.D May.-2025

DATA SHEET

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	20	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	8	A
Gate-Source Voltage	V_{GS}	± 12	V
Avalanche Current	I_{AS}	12.5	A
Single Pulsed Avalanche Energy	E_{AS}	111	mJ
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	2.8	W
Junction Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Maximum Junction-to-Ambient	t 10s	R_{JA}	45
	Steady-State	R_{JA}	80

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	20	25		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=16V$ $T_J=150$			50	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			± 0.1	μA
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=8.0A$		8	10	m
		$V_{GS}=4.5V$ $I_D=8.0A$		9.5	11	m
		$V_{GS}=2.5V$ $I_D=8.0A$		14	16	m

D=8.0A 100T

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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(4.5V)}$	$V_{DS}=10V$ $V_{GS}=4.5V$		17.9		
Gate-Source Charge	Q_{gs}	$I_D=12.0A$		1.5		nC

/ Electrical Characteristic Curve

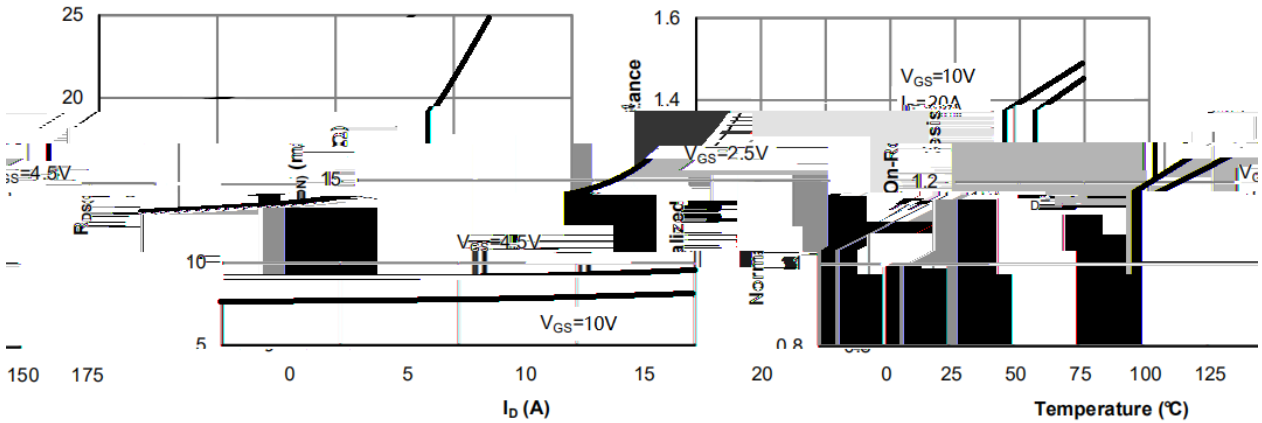
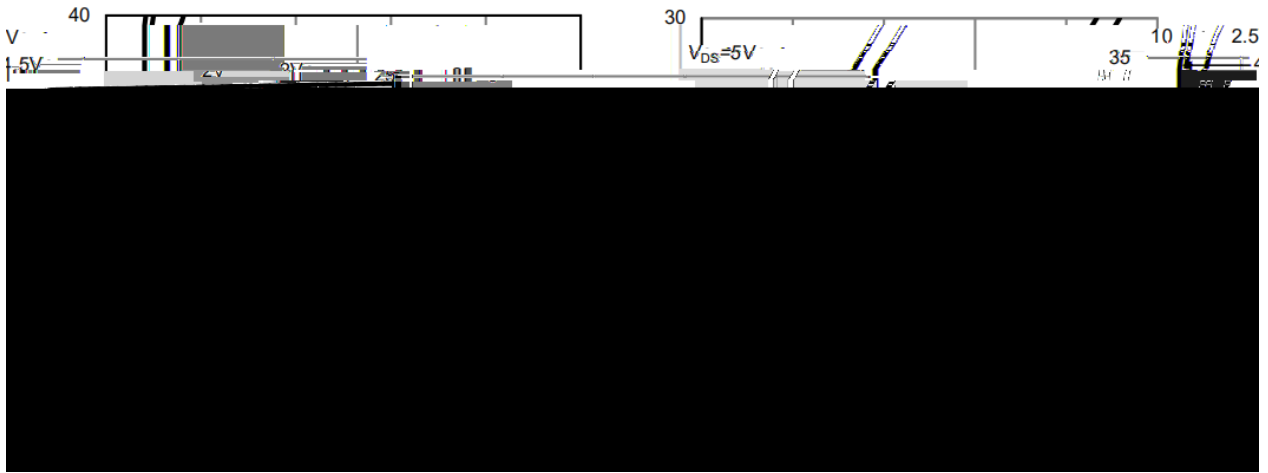
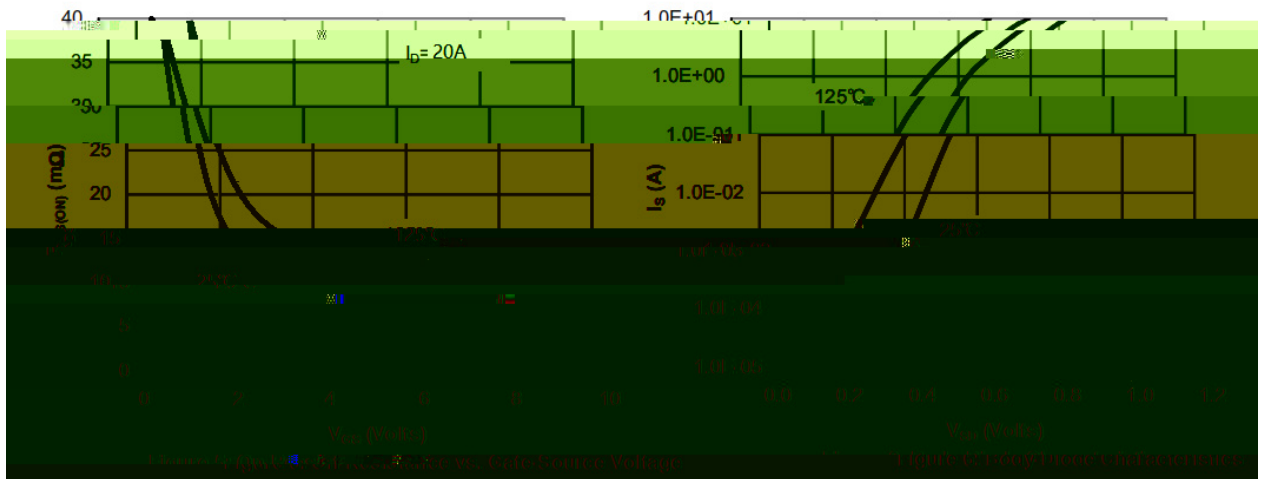


Figure 2: On-Resistance vs. Drain Current and Figure 3: On-Resistance vs. Temperature



/ Electrical Characteristic Curve

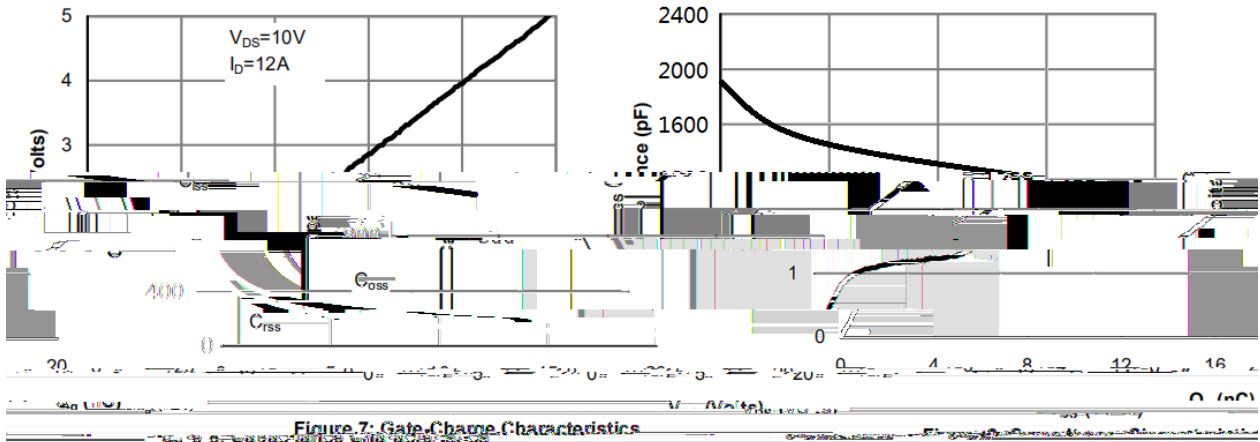


Figure 7: Gate Charge Characteristics

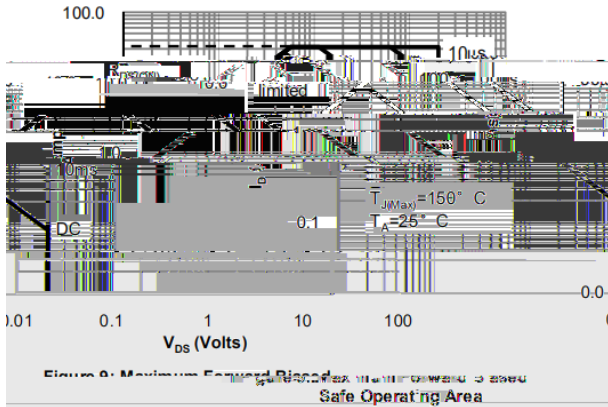


Figure 9: Maximum Forward Bias Safe Operating Area

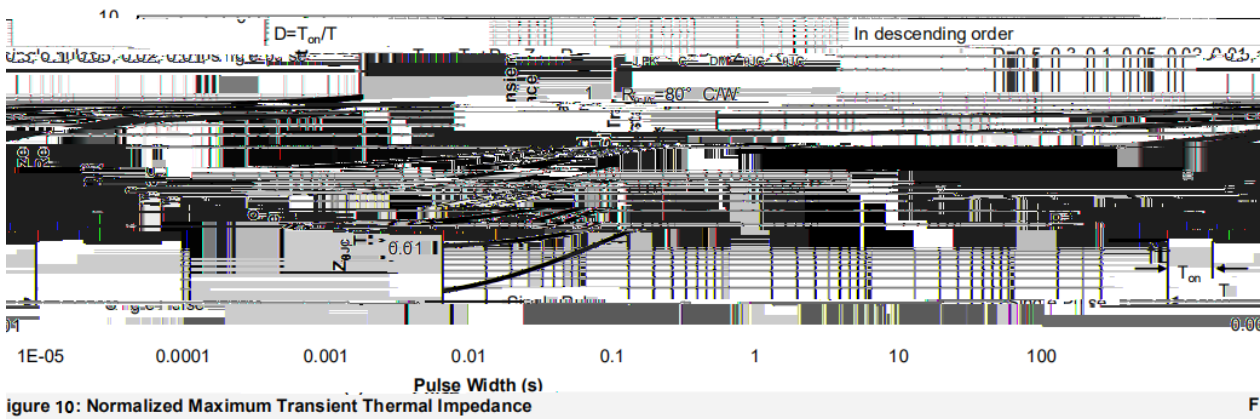
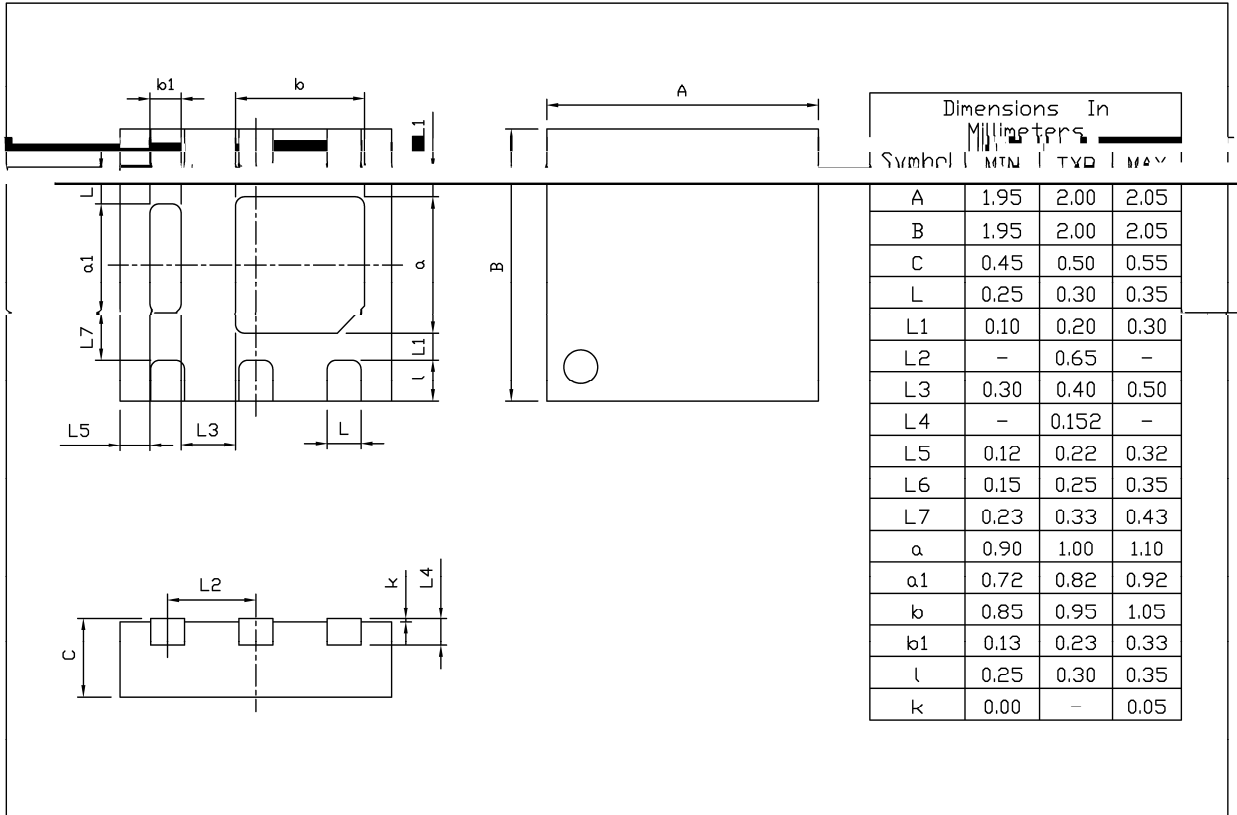


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

DFN2 X2B-6L-0.5

Unit:mm



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