

# BRCs070N06SHRA

Rev.A Jul.-2024



DATA SHEET

TO-220            N

N-CHANNEL MOSFET in a TO-220 Plastic Package.

$V_{DS}=60V$      $I_D$

## / Absolute Maximum Ratings(Ta=25 )

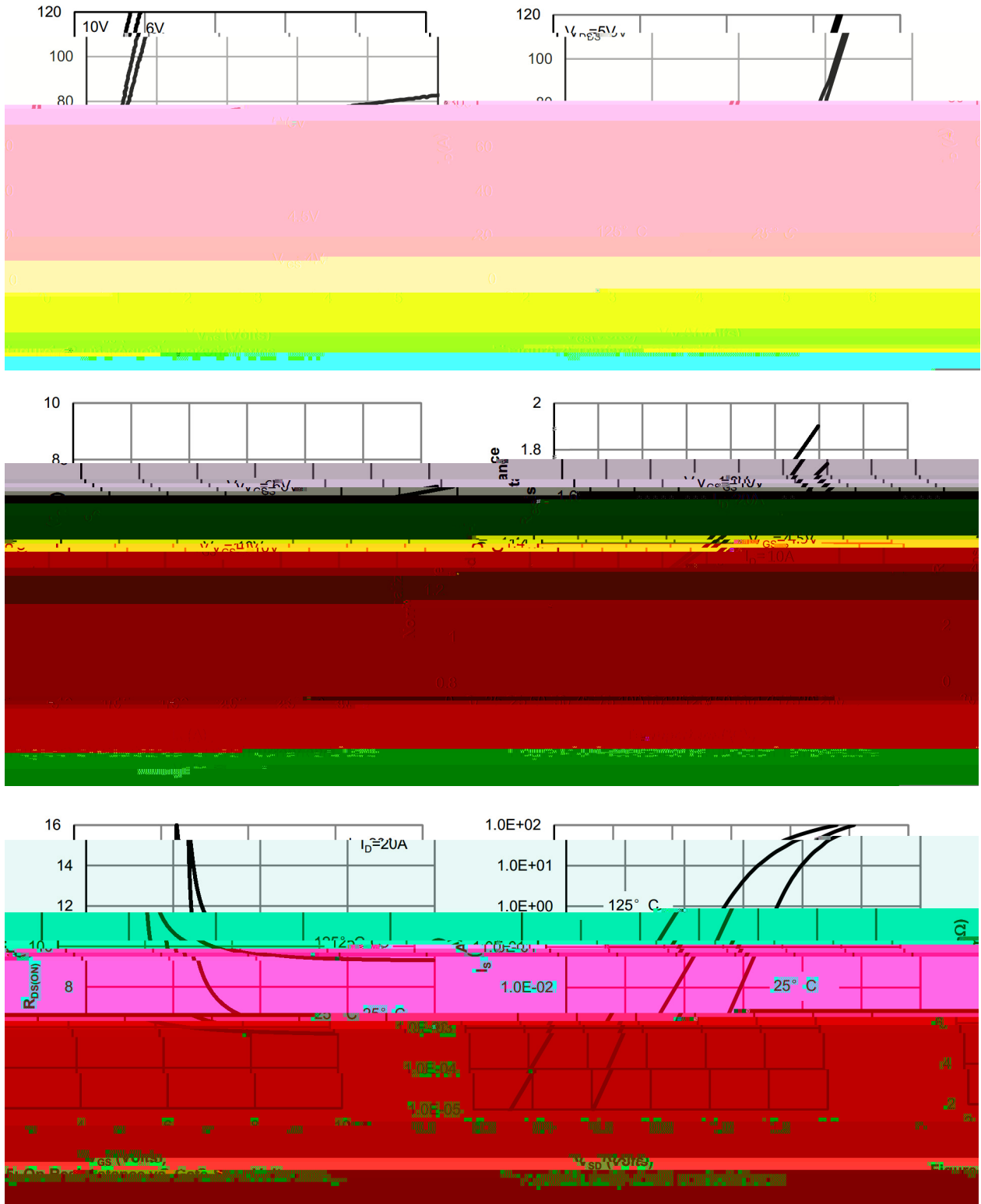
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		$V_{DSS}$	60	V
Drain Current		$I_D(T_C=25)$	106	A
Pulsed Drain Current		$I_{DM}$	376	A
Gate-Source Voltage		$V_{GS}$	20	V
Single Pulsed Avalanche Energy(L=0.5mH)		$E_{AS}$	720	mJ
Avalanche Current		$I_{AS}$	41	A
Total Power Dissipation		$P_D(T_C=25)$	150	W
Junction and Storage Temperature Range		$T_J, T_{STG}$	-55 to 150	
Thermal Resistance-Junction to Ambient	Steady-State	$R_{JA}$	62.5	/W
Thermal Resistance-Junction to Case	Steady-State	$R_{JC}$	0.83	

## / Electrical Characteristics(Ta=25 )

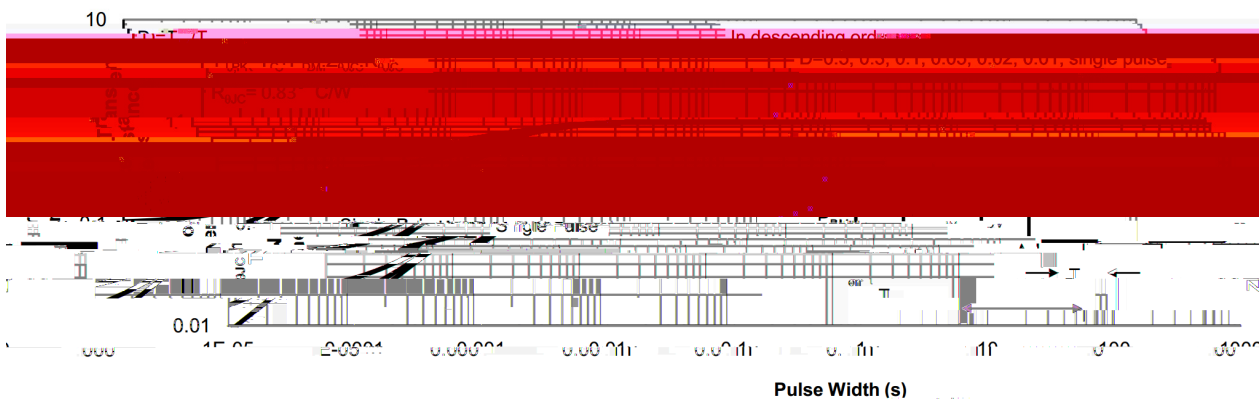
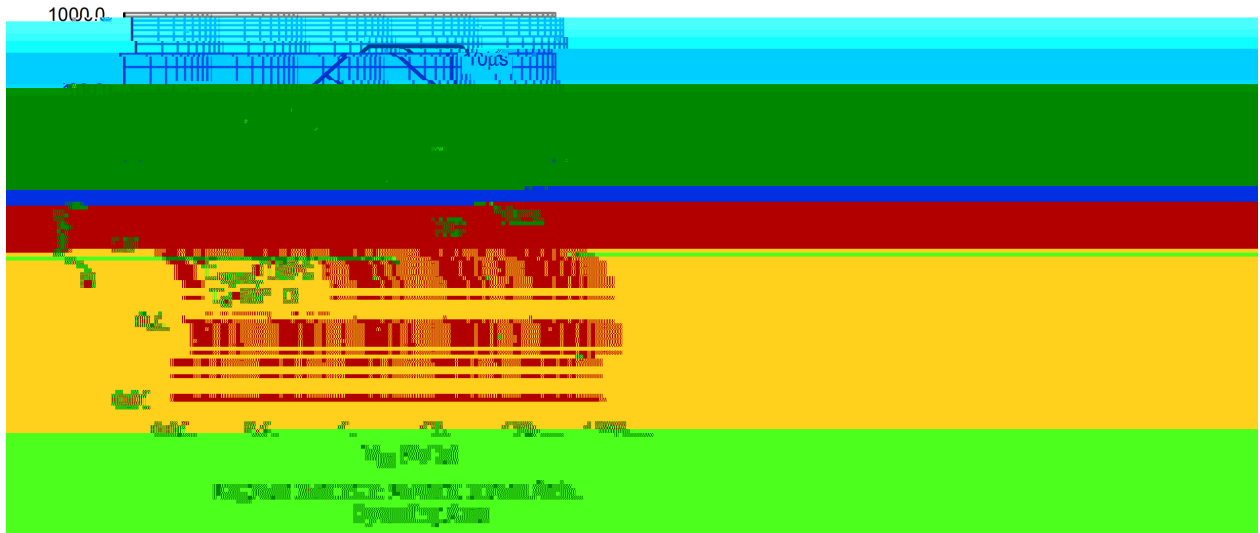
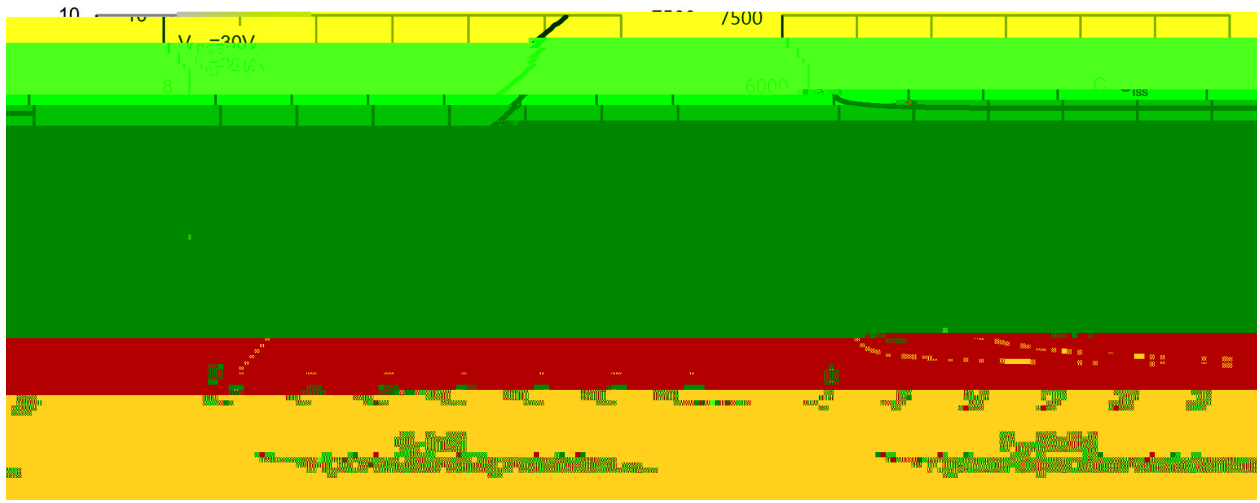
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D=250\mu A, V_{GS}=0V$	60	70		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1.0	$\mu A$
Gate-Body leakage current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	2.9	4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=20A$		5.7	7	m
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=6V, I_D=10A$		6.2	12	m
Diode Forward Voltage	$V_{SD}$	$I_S=1A, V_{GS}=0V$			1.2	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$		5590		pF
Output Capacitance	$C_{oss}$			295		
Reverse Transfer Capacitance	$C_{rss}$			185		
Gate resistance	$R_g$	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		0.77		
Total Gate Charge	$Q_g$	$V_{GS}=10V, V_{DS}=30V, I_D=20A$		53		nC
Gate Source Charge	$Q_{gs}$			17		
Gate Drain Charge	$Q_{gd}$			5		

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**/ Electrical Characteristic Curve**



/ Electrical Characteristic Curve



Normalized Maximum Transient Thermal Impedance

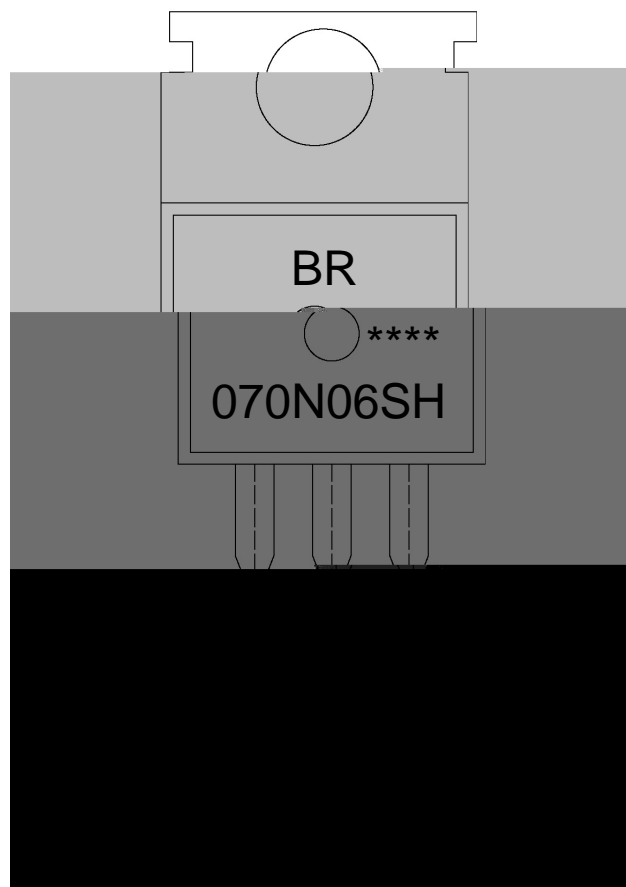
Pulse Width (s) **Figure 10: Normalized Maximum Transient Thermal Impedance**

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## / Marking Instructions



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'.' 'E' -J?

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Note:

BR: Company Code

070N06SH: Product Type Code

\*\*\*\*: Lot No. Code, code change with Lot No

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