

# BRCS010N04SZC

Rev.B May.-2023

## / Descriptions

PDFN5×6 N  
N-Channel MOSFET in a PDFN5× 6 Plastic Package.

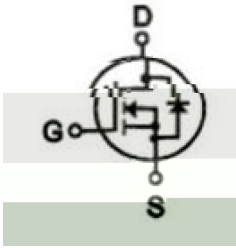
## / Features

Low  $R_{DS(ON)}$  to minimize conductive loss; low Gate Charge for fast switching; Low Thermal resistance; HF Product.

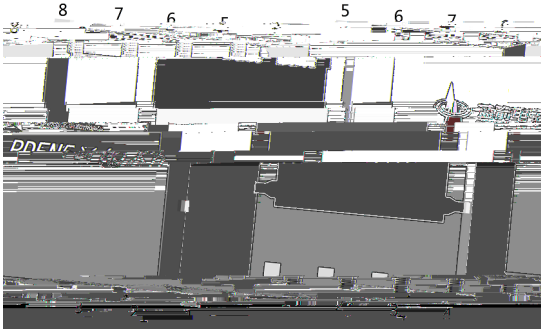
## / Applications

Battery Management.

## / Equivalent Circuit



## / Pinning



PIN1 2 3 S PIN4 G PIN5 6 7 8 D

## / Marking

See Marking Instructions.

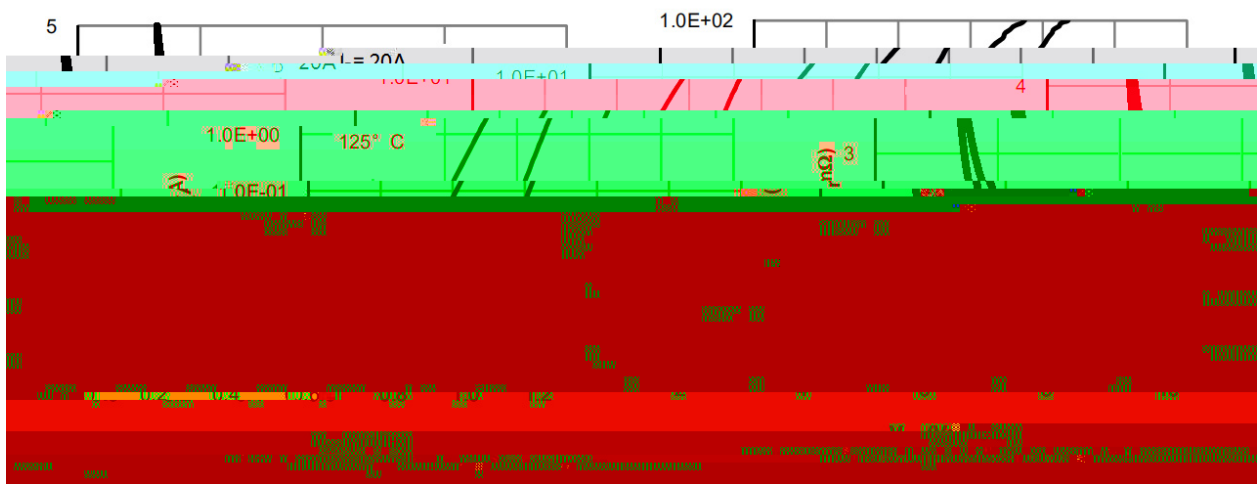
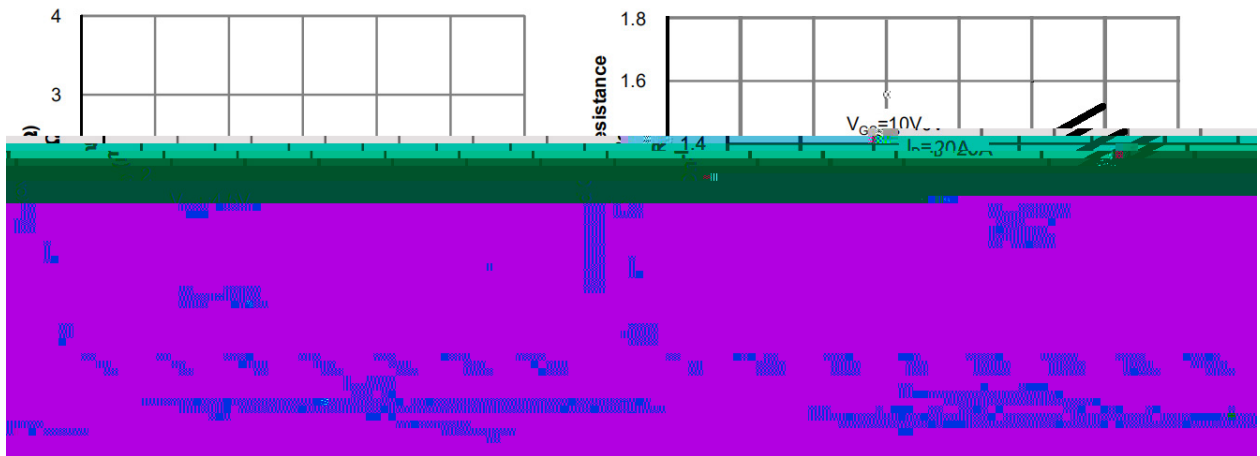
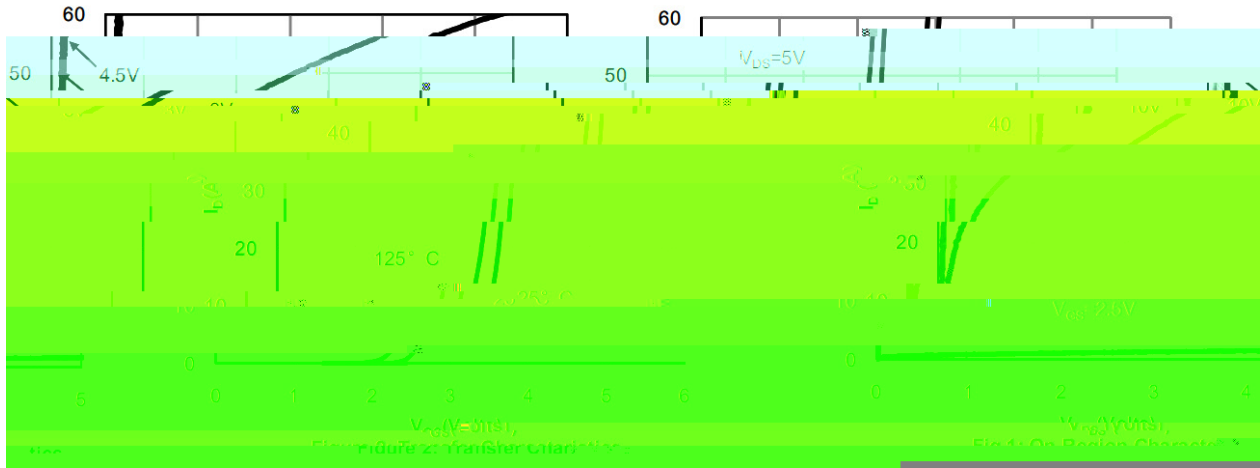
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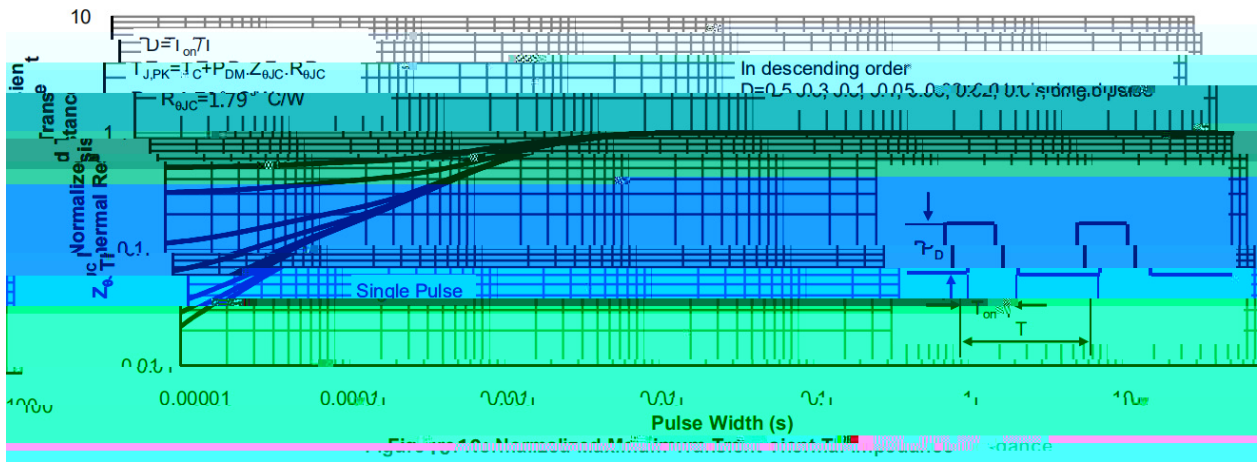
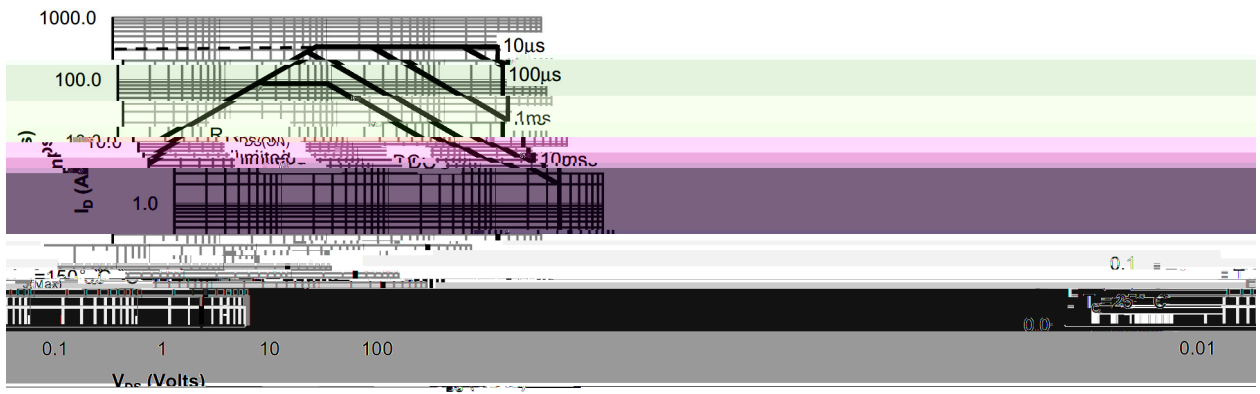
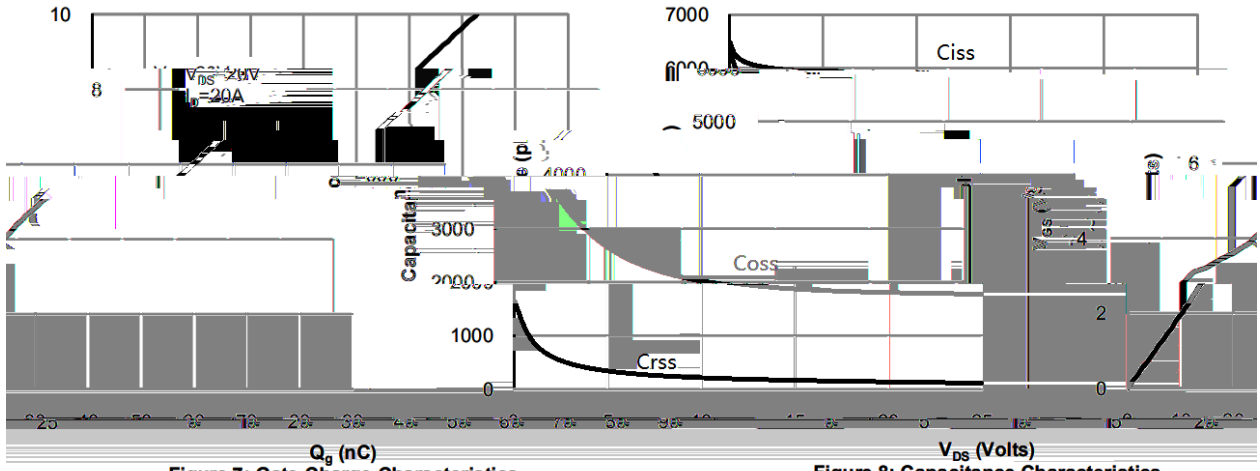
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	40	V
Drain Current - Continuous	$I_D$	215	A
Drain Current – Pulsed	$I_{DM}$	430	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	70	W
Single Pulse Avalanche Energy(L=0.5mH)	$E_{AS}$	542	mJ
Avalanche Current(L=0.5mH)	$I_{AS}$	44	A
Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 150	
Thermal resistance, junction - case	$R_{JC}$	1.79	/ W
Thermal resistance, junction - ambient	$R_{JA}$	50	/ W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	40	46		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=40\text{V}, V_{GS}=0\text{V}$			1.0	$\mu\text{A}$
Gate-Body leakage current	$I_{GSS}$	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1	1.5	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		0.93	1.0	m
		$V_{GS}=4.5\text{V}, I_D=10\text{A}$		1.28	2.0	
Input Capacitance	$C_{iss}$	$V_{DS}=25\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		5800		pF
Output Capacitance	$C_{oss}$			1860		
Reverse Transfer Capacitance	$C_{rss}$			135		
Gate resistance	$R_g$	$V_{GS}=0\text{V}, f=1\text{MHz}$ $V_{DS}=0\text{V}$		1.0		oss

**/ Electrical Characteristic Curve**



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