BRCS035N04SDP

Rev.A Mar.-2023

DATA SHEET

/ Descriptions

TO-252 N

N-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Features

$R_{DS(on)}$ C_{rss}

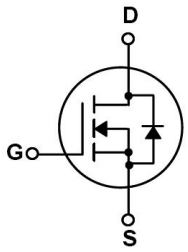
Low $R_{DS(on)}$,low gate charge, low C_{rss}, fast switching, HF Product.

/ Applications

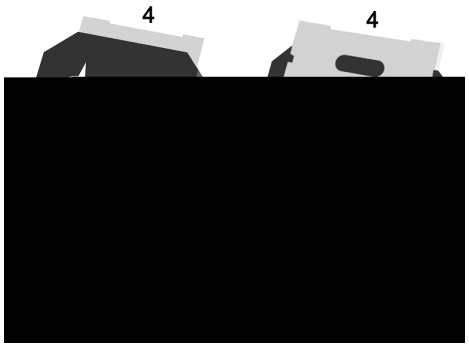
DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S PIN 4 D

/ Marking

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		I_D(Tc=25)	136	A
Drain Current - Pulsed		I_{DM}	280	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	33	A
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	435	mJ
Power Dissipation		P_D(Tc=25)	118	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	t ≤ 10s	$R_{\theta JA}$	20	/W
	Steady-State		50	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	1.06	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	40			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V V_{GS}=0V			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	1.0	1.7	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=20A		3.0	3.5	mΩ
		V_{GS}=4.5V I_D=10A		4.0	5.0	
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A			1.4	V
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V, f=1MHz		1.16		Ω
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}100				

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	tSy98 1 307 433.51 32 236.4m-.0244 Tc.0037					

/ Electrical Characteristic Curve

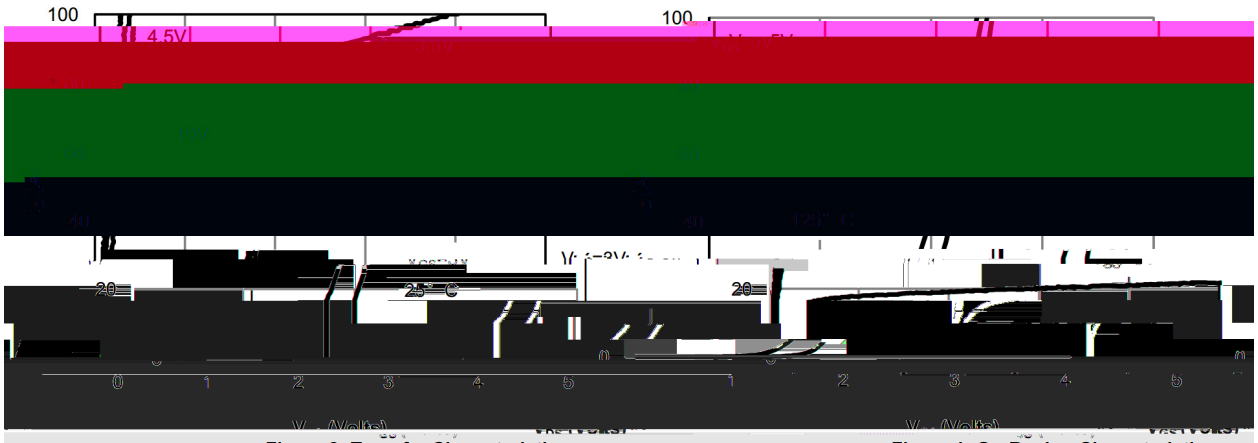
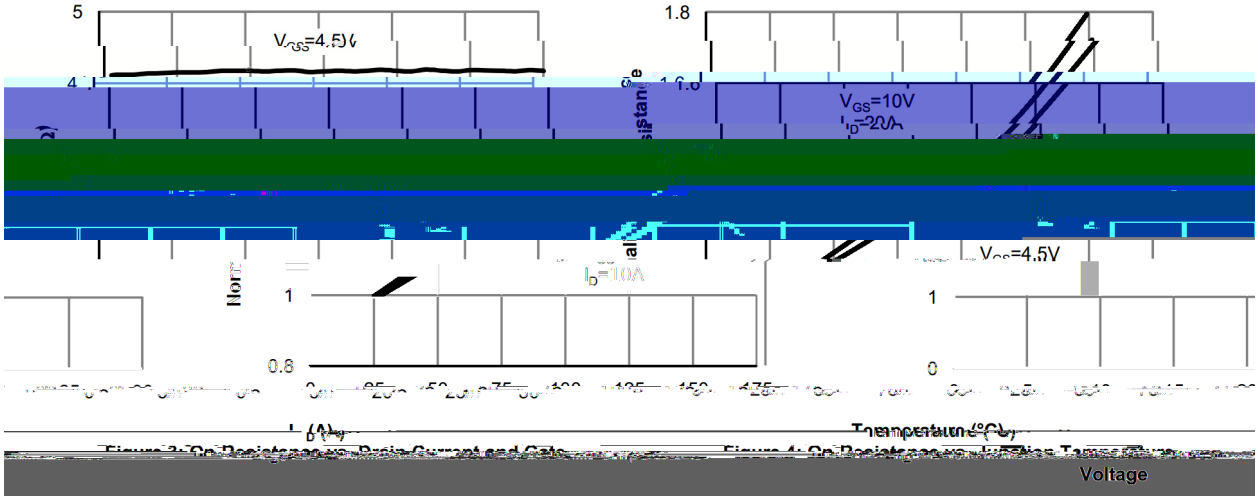
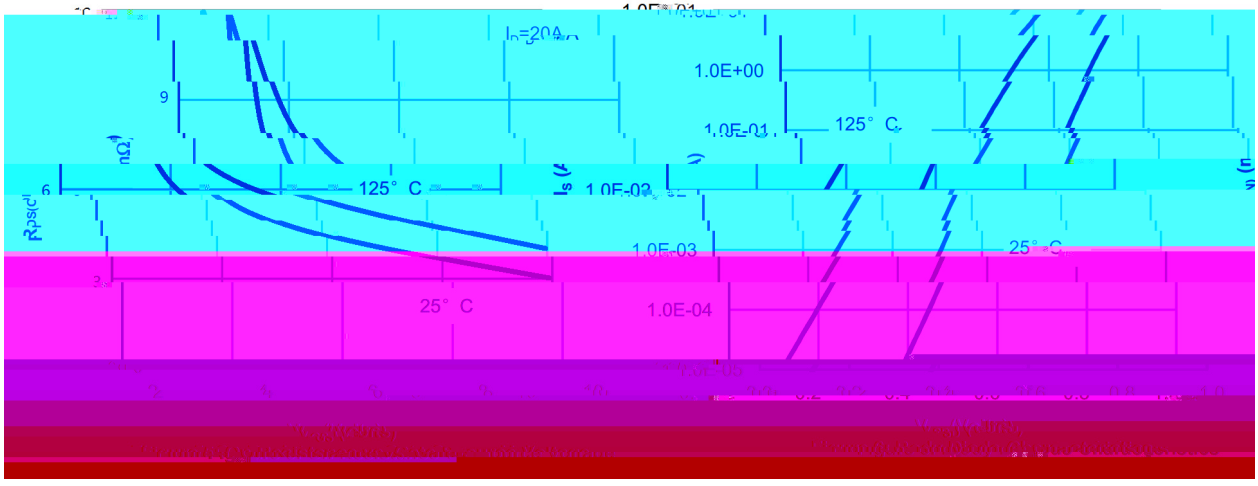


Figure 2: Transfer Characteristics

Figure 1: On-Region Characteristics





/ Electrical Characteristic Curve

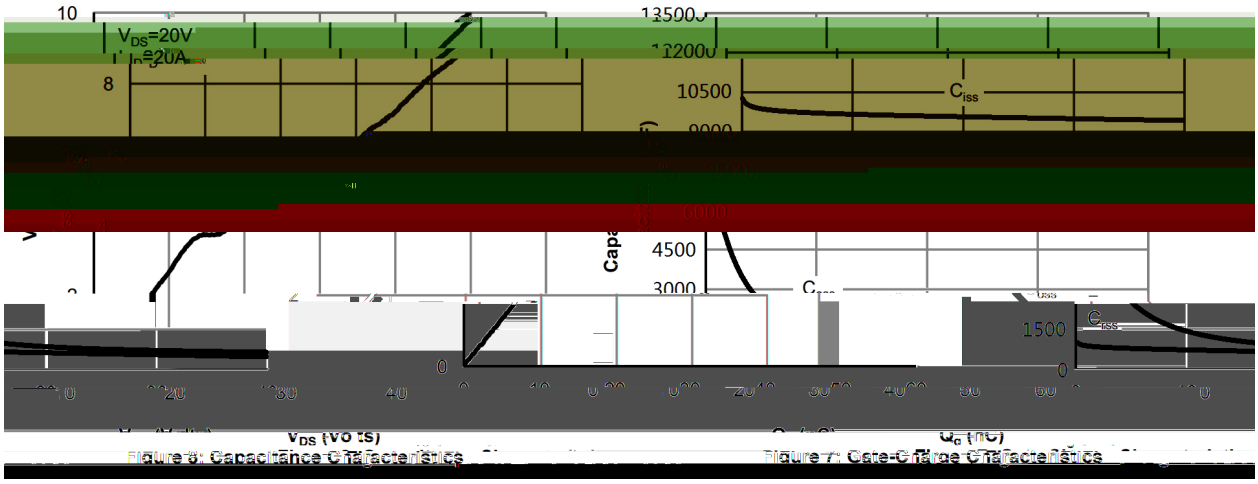
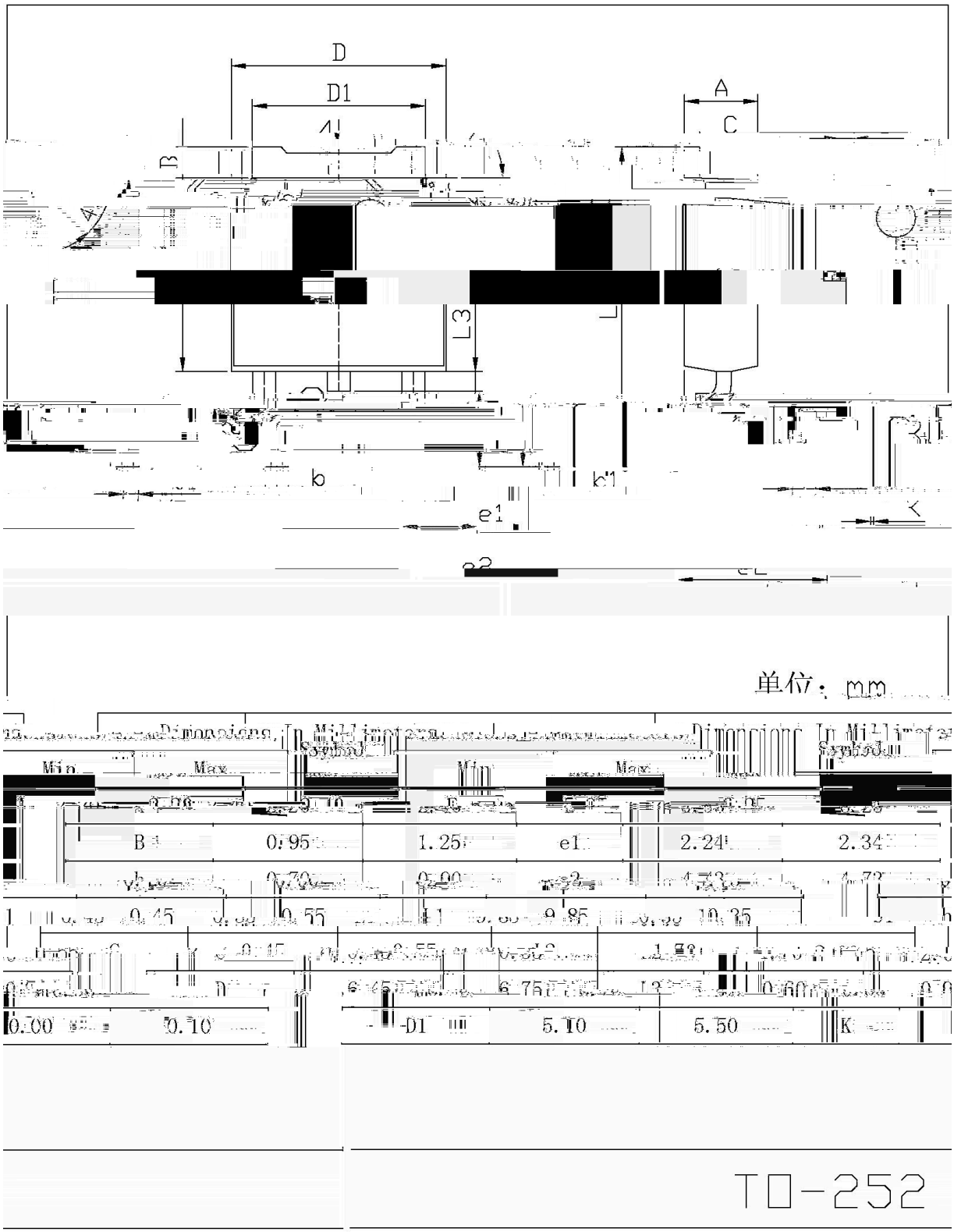


Figure 6: Capacitance Characteristics

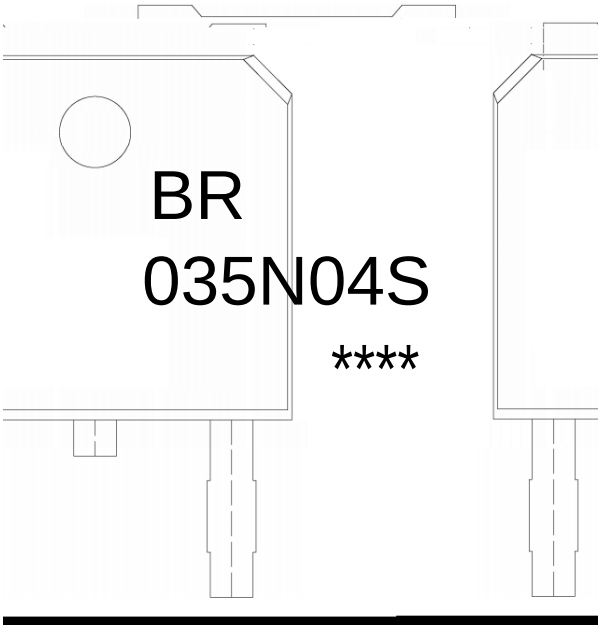
Figure 7: Gate-Charge Characteristics

/ Package Dimensions



Symbol	Min	Max	Symbol	Min	Max
B	0.95	1.25	e1	2.24	2.34
b	0.70	0.90	e2	4.53	4.72
b1	0.45	0.55	L	9.85	10.35
c	0.45	0.55	L1	1.83	
c1	0.45	0.55	L2	0.60	
D	6.45	6.75	L3	0.70	
E	0.00	0.10	D1	5.10	5.50
			K		

/ Marking Instructions



BR

035N04S

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Note:

BR:	Company Code
035N04S:	Product Type Code
****:	Lot No. Code, code change with Lot No

BRCS035N04SDP