

BRCS20P06DP

Rev.C Feb.-2025

/ Descriptions

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

/ Features

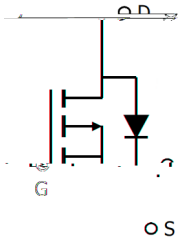
$V_{DS} (V) = -60V$ $I_D = -20A (V_{GS} = \pm 20V)$
 $R_{DS(ON)} @ -10V$ 75m (Typ.62m)
 $R_{DS(ON)} @ -4.5V$ 100m (Typ.70m)
HF Product.

/ Applications

DC/DC

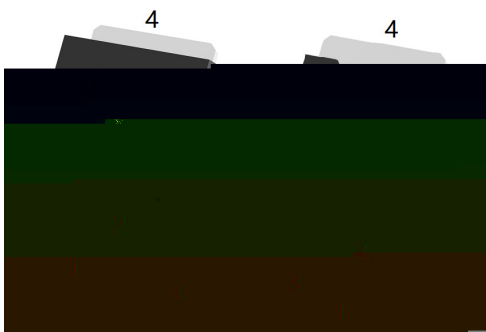
Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit



o S

/ Pinning



PIN 1 G PIN 2 D PIN 3 S PIN 4 D

/ Marking

See Marking Instructions.

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DATA SHEET

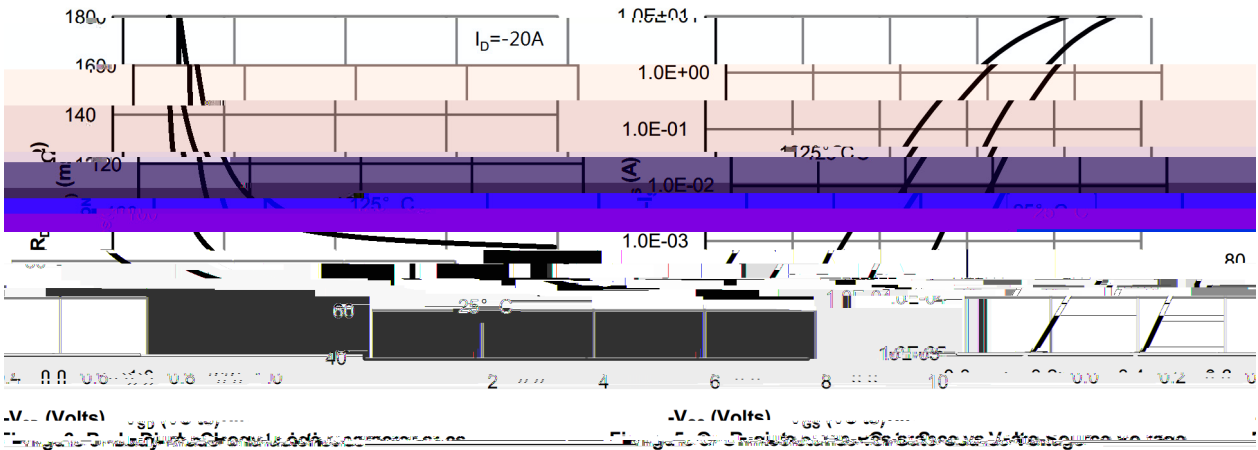
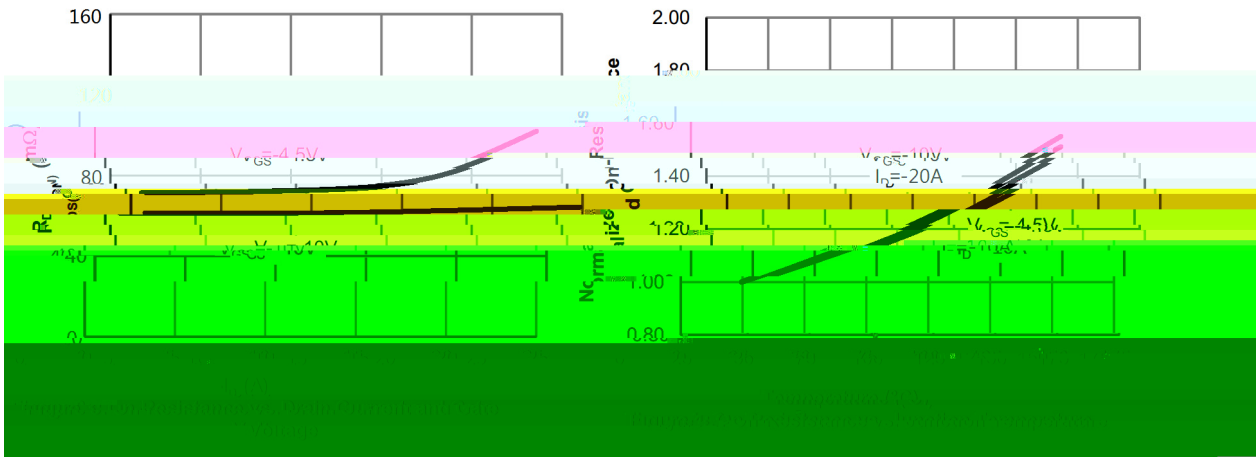
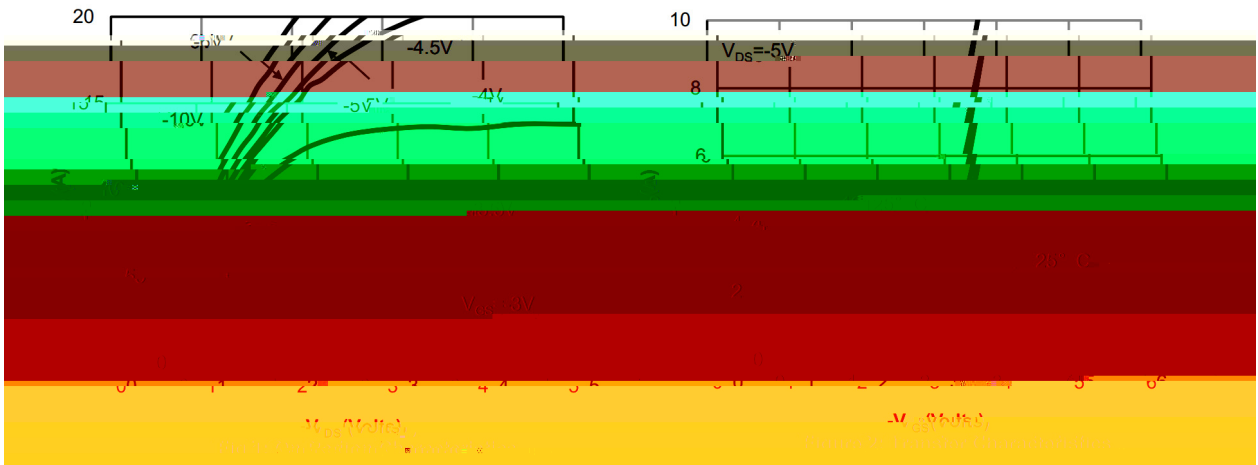
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	$I_D (T_c=25^\circ C)$	-20	A
Pulsed Drain Current	I_{DM}	-80	A
Avalanche Current	I_{AS}	-13.8	A
Avalanche energy L=0.5mH	E_{AS}	95	mJ
Power Dissipation for Single Operation	$P_D (T_c=25^\circ C)$	45	W
Maximum Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Thermal Resistance- Junction-to-Ambient	R_{JA}	50	/W
Thermal Resistance- Junction-to-Case	R_{JC}	2.8	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250 A \quad V_{GS}=0V$	-60	-69		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V \quad V_{GS}=0V$			-1.0	
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V \quad V_{GS}=\pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS} \quad I_D=-250 A$	-1.0	-1.5	-2.5	V
		$V_{GS}=-10V \quad I_D=-20A$		62	75	m
		$V_{GS}=-4.5V \quad I_D=-10A$		70	100	
		$I_D=-250 A \quad V_{GS}=0V$			-1.0	V
		$V_{GS}=0V \quad V_{DS}=-25V$		62		

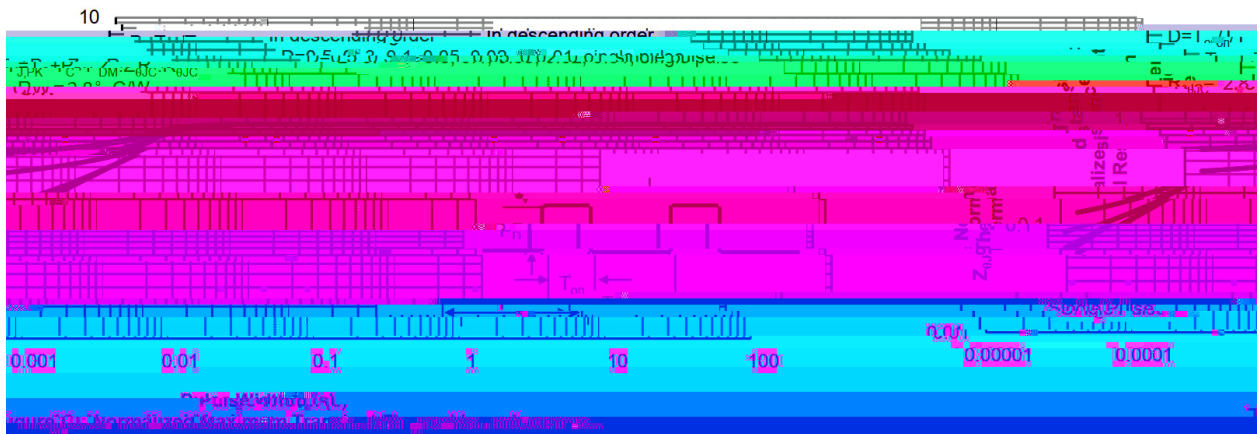
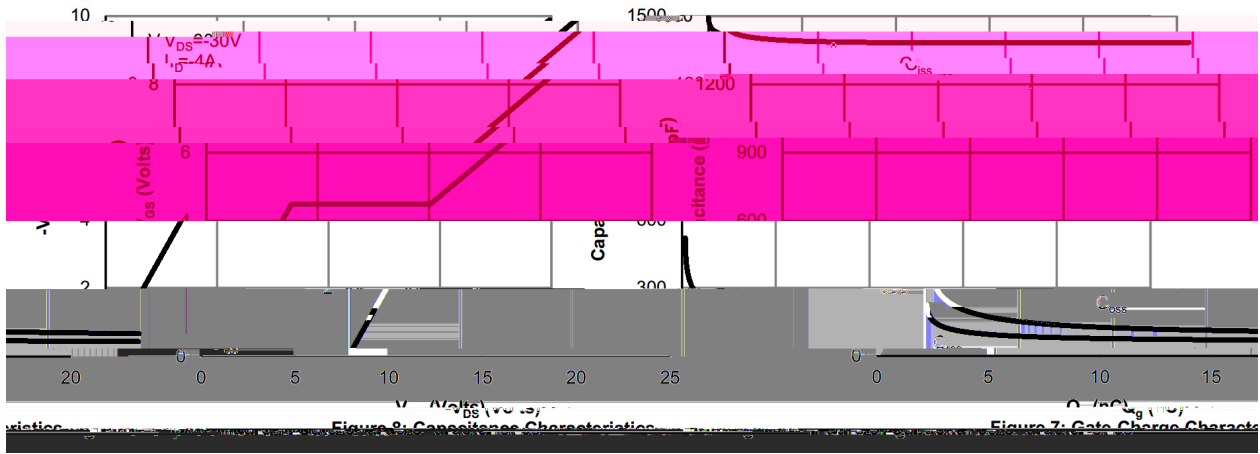
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-on Delay Time	$t_{d(ON)}$	$V_{GS}=-10V$ $V_{DS}=-30V$ $R_L=7.5$ $R_{GEN}=3$		8		ns
Turn-on Rise Time	t_r			3.8		
Turn-off Delay Time	$t_{d(OFF)}$			31.5		
Turn-off Fall Time	t_f			7.5		

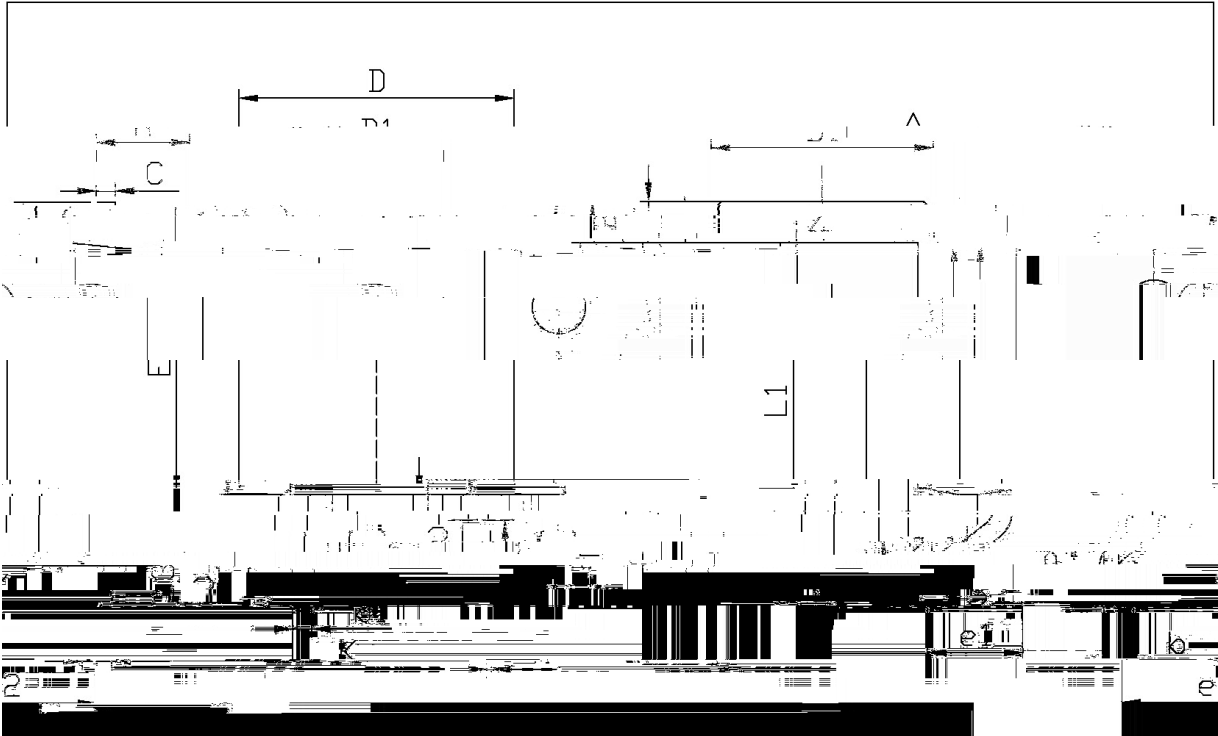
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions

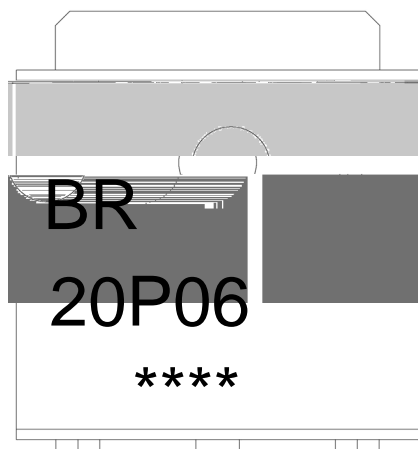


单位: mm

Symbol	Min	Max	Symbol	Min
A	2.30	2.40	F	5.95
B	0.50	0.53	G	4.75
b1	0.45	0.55	H	9.95
C	0.50	0.53	I	0.40
D	0.60	0.63	J	0.35
E	0.60	0.63	K	0.00
G	5.16	5.50	L	0.00

02-252

/ Marking Instructions



BR

20P06

Note:

BR: Company Code

20P06: Product Type Code

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

BRCS20P06DP