

BRCS020N06SBD

Rev.B Dec.-2024

5 é / Descriptions

TO-263 .> // x N ?ú 3 « | • 'ož

N-CHANNEL MOSFET in a TO-263 Plastic Package.

¤ ª / Features

$V_{DS}=60V$ $I_D=225A$

$R_{DS(on)}@10V$ "2.2m (Type. 1.9m)

$R_{DS(on)}@4.5V$ "3.5m (Type. 2.5m)

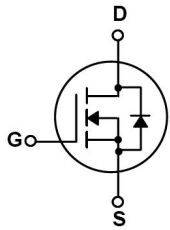
—)í D }ož HF Product.

Ð ÷ / Applications

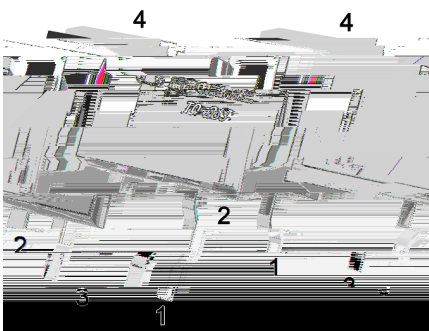
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These devices are well suited for high efficient switched mode power supplies ÈActive power factor correction, electronic lamp ballast based on half bridge topology.

Ã W] Ô . / Equivalent Circuit



• Ů - æ / Pinning



PIN1 y G PIN 2•4 y D PIN 3 y S

, M V / Marking

• - ~ ª ¢ ož

See Marking Instructions.

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DATA SHEET

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	225	A
Pulsed Drain Current	I_{DM}	646	A
Gate-Source Voltage	V_{GS}	± 20	V
Single Pulsed Avalanche Energy $L=0.5\text{mH}$	E_{AS}	380	mJ
Avalanche Current	I_{AS}	30.8	A
Total Power Dissipation	$P_D(T_C=25^\circ\text{C})$	125	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient Steady-State	$R_{\theta JA}$	50	

Electrical Characteristics(Ta=25 ;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_g(10V)$	$V_{GS}=10V$ $V_{DS}=30V$ $I_D=20A$		60		nC
Total Gate Charge	$Q_g(4.5V)$			23		
Gate Source Charge	Q_{gs}			16		
Gate Drain Charge	Q_{gd}			3		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_L=1$ $R_{GEN}=3$		13		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	t_f			6.5		

Electrical Characteristic Curve

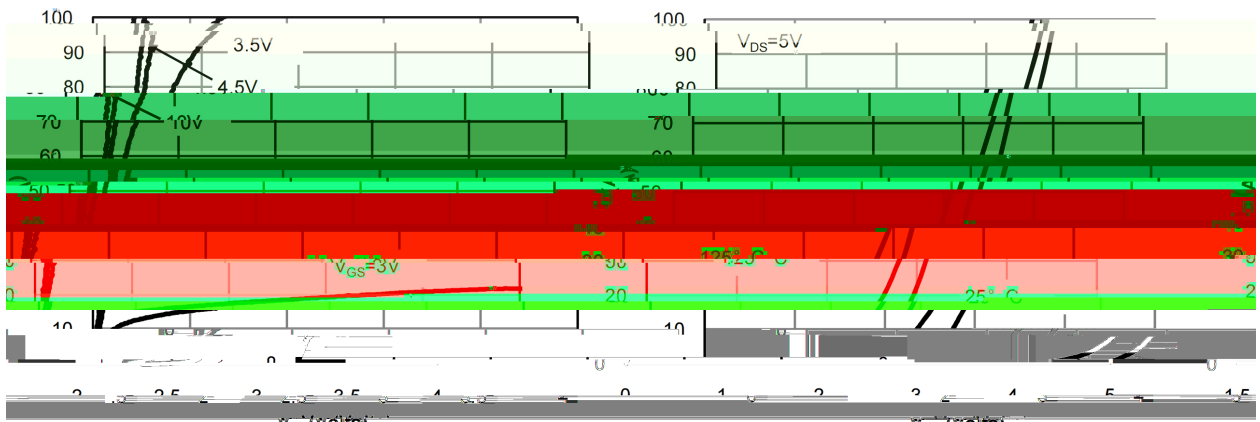


Figure 2: Transfer Characteristics Figure 3: Output Characteristics Figure 4: Output Characteristics

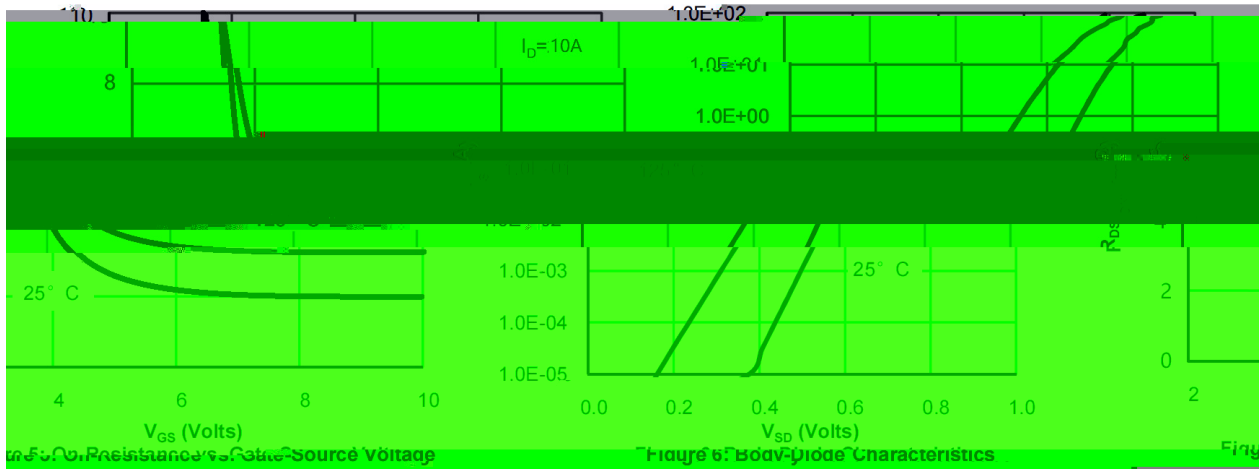
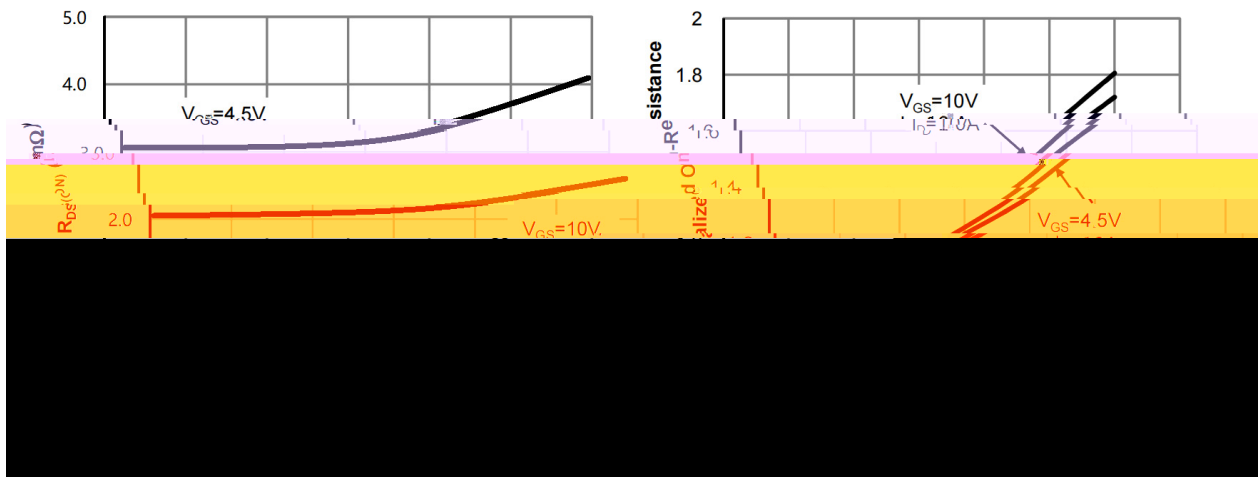
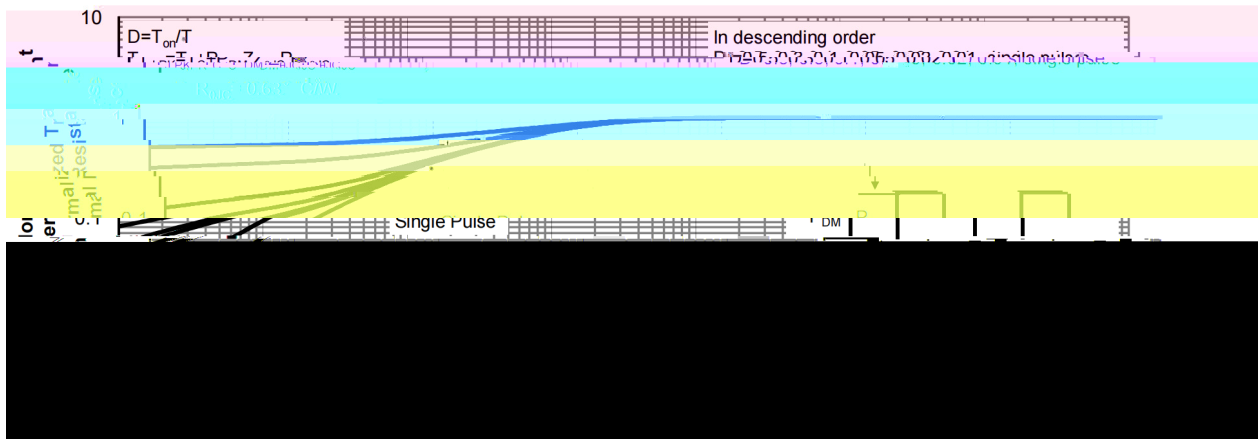
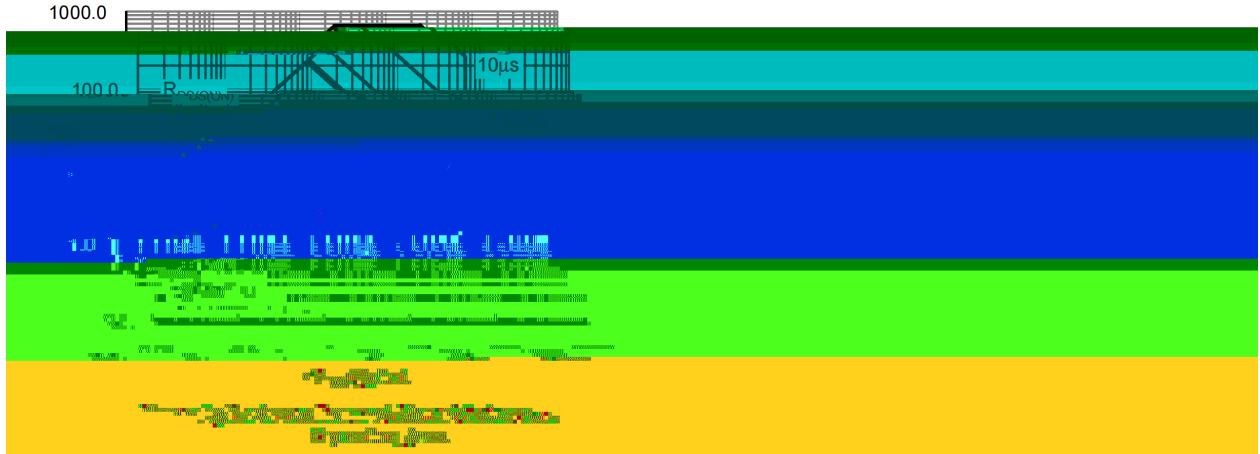
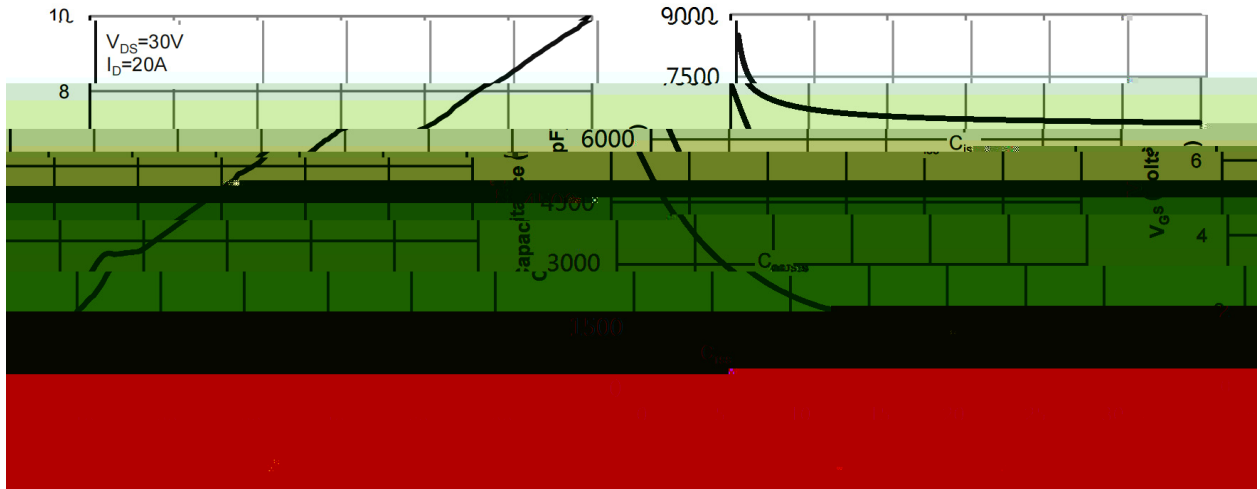
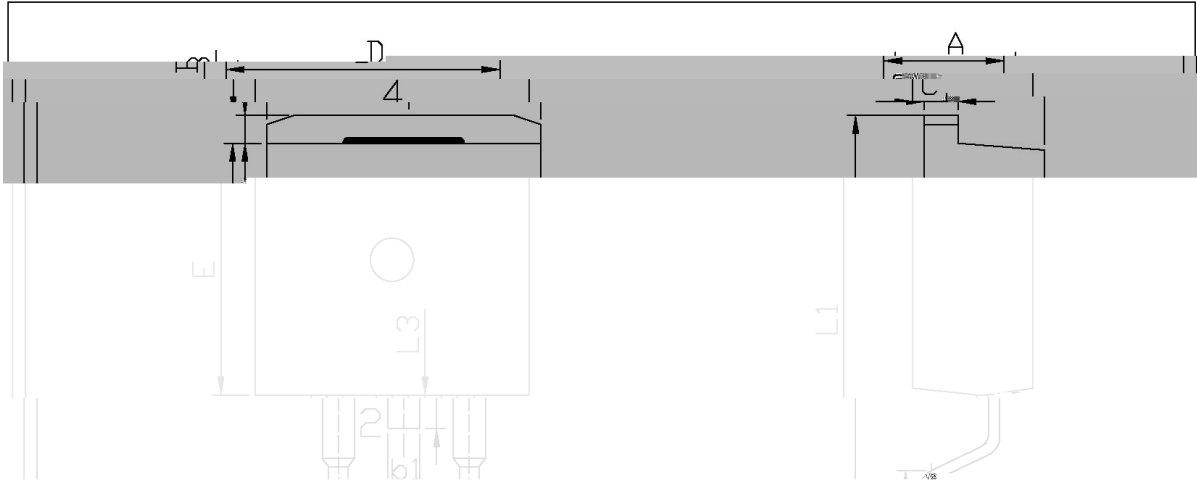


Figure 7: Id vs Vgs Figure 8: Id vs Vds Figure 9: Id vs Vgs Figure 10: Id vs Vds

Electrical Characteristic Curve



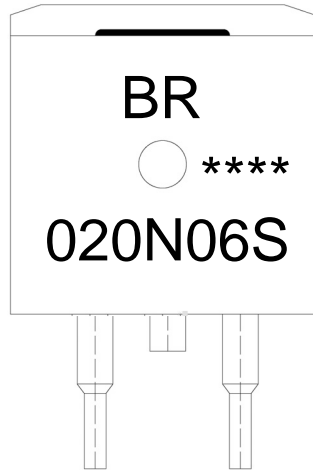
∅ □ =) ∅ / Package Dimensions



Max	Min	Max	Min
9.40	A	4.30	4.70
2.70	B	1.00	1.40
15.00	b1	1.15	1.35
2.70	b2	0.40	0.60
1.20	C	1.20	1.40
1.60	D	9.80	10.20
	L1		
	L2		
	L3		



, M y f / Marking Instructions



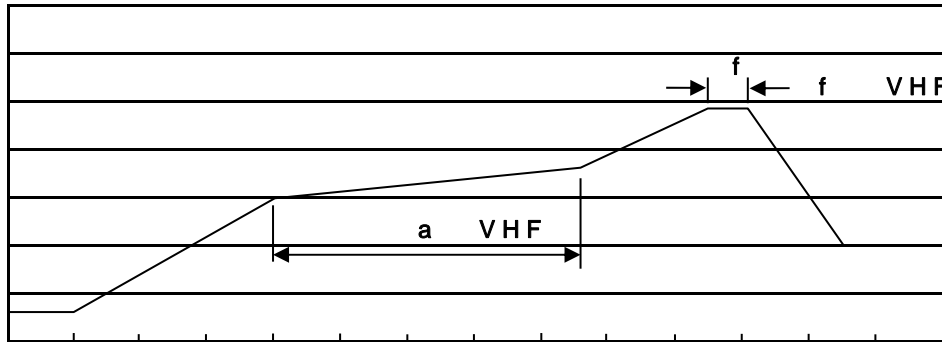
a ç y
(8 y , [W A
4 9 y ° Z W A
y ÿ D Z W A k š ÿ D Z J

Note:

- BR: Company Code
- 020N06S: Product Type Code
- ****: Lot No. Code, code change with Lot No

šWD t...•Žç (x/) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6

7HPSHUDWXUH



7LPH VHF

a ç y

1o• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:150~180 - , Time:60~90sec.

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÄD /Cã p ~ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 -

ž • y 10 r1 sec.

Temp.:260±5

Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type 7>û ~ E	Units ;>û iH					Dimension ;>û p . (unit Åmm ³)		
	Units/Reel / --	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /!ç	Units/Outer Box /!ç	Reel	Inner Box	Outer Boxç
TO-263	800	1	800	6	4,800	13 s x24	360x360x50	380x335x366

ì ' x / TUBE

Package Type 7>û ~ E	Units ;>û iH					Dimension ;>û p . (unit Åmm ³)		
	Units/Tube /•1x	Tubes/Inner Box •1x /-	Units/Inner Box /-	Inner Boxes/Outer Box - /!ç	Units/Outer Box /!ç	Tube•1x	Inner Box	Outer Boxç
TO-263	50	20	1,000	5	5,000	532x33x7.0	555x164x50	575x290x180

„ Æ y f / Notices