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)

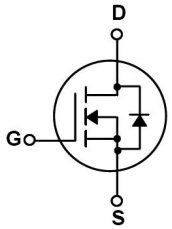
—)í D }ož HF Product.

Ð ÷ / Applications

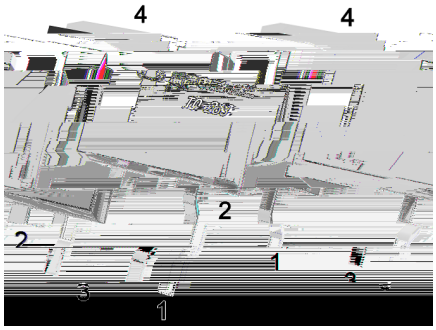
¥ ˜ ^ 9 ä | › % ² k ” 6 ,) è y Â 9 ! " ÷ È ã ÿ - °ož

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



• Û - æ / Pinning



PIN1 y G PIN 2o•4 y D PIN 3 y S

, M V / Marking

• - ~ ª ¢ož

See Marking Instructions.

@ *f* Parameter		… Z Symbol	*f* › Rating	% y Unit
Drain-Source Voltage		V_{DSS}	60	V
Drain Current		I_D(Tc=25)	225	A
Pulsed Drain Current		I_{DM}	646	A
Gate-Source Voltage		V_{GS}	±20	V
Single Pulsed Avalanche Energy L=0.5mH		E_{AS}	380	mJ
Avalanche Current		I_{AS}	30.8	A
Total Power Dissipation		P_D(Tc=25)	125	W
Junction and Storage Temperature Range		T_J,T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	Steady-State	R ©JA	50	

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y 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		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

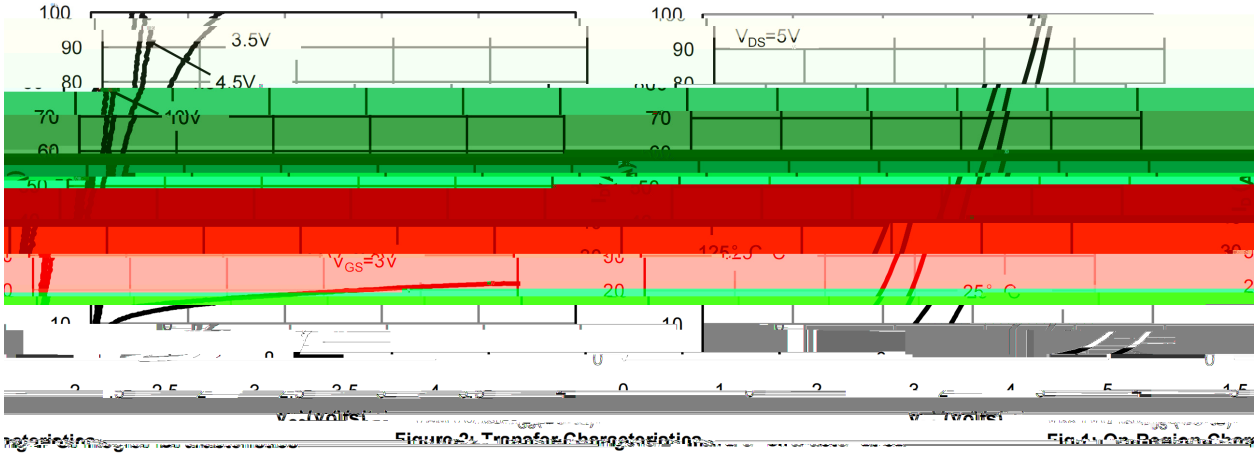


Figure 2: Transfer Characteristics

Figure 3: On-Region Characteristics

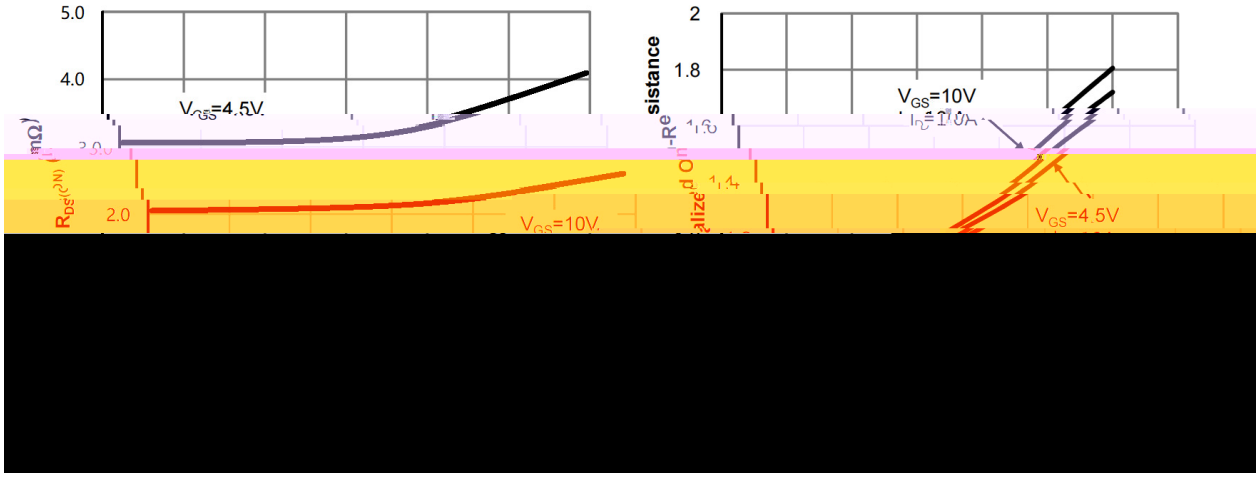
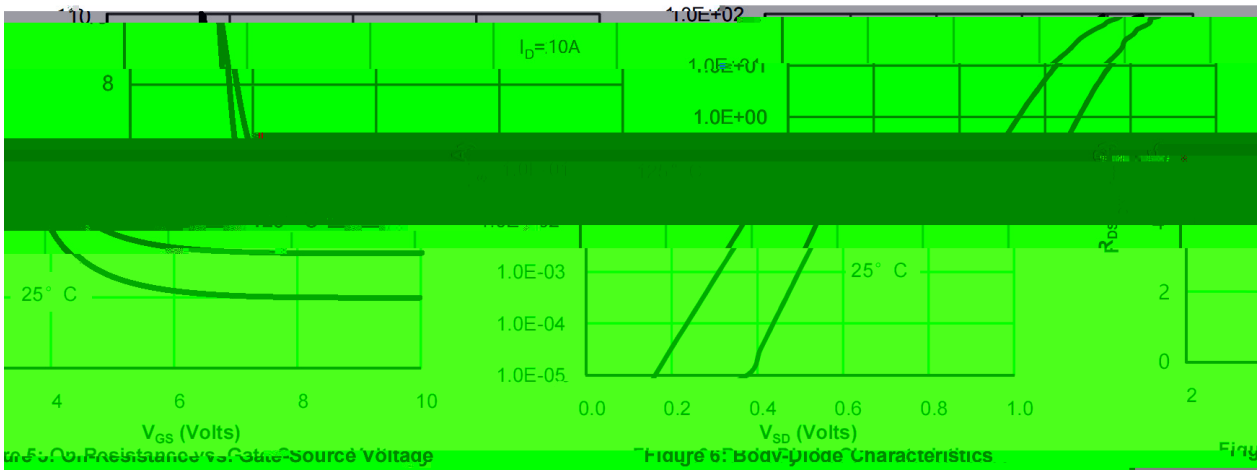
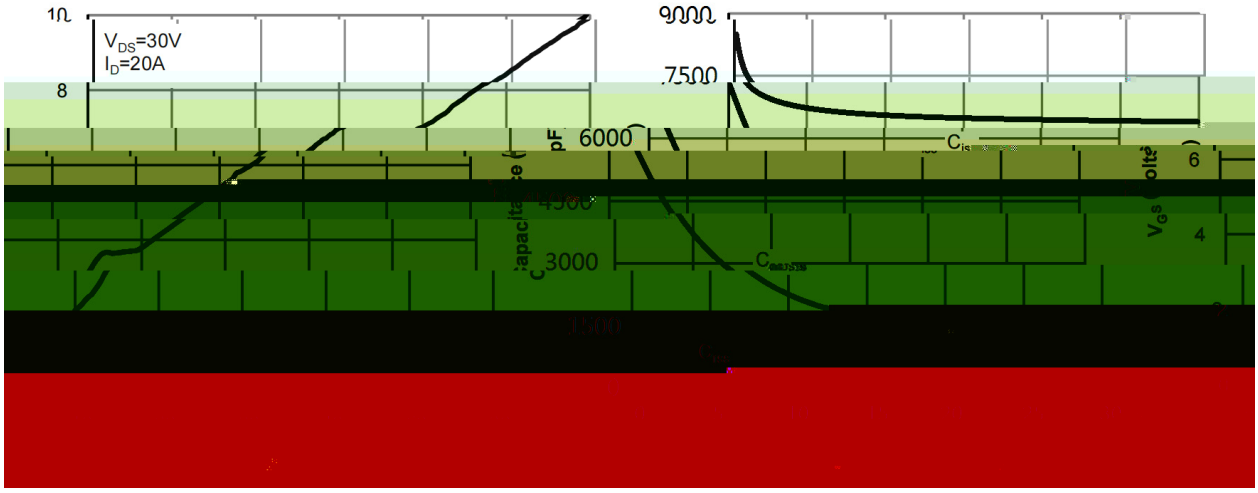


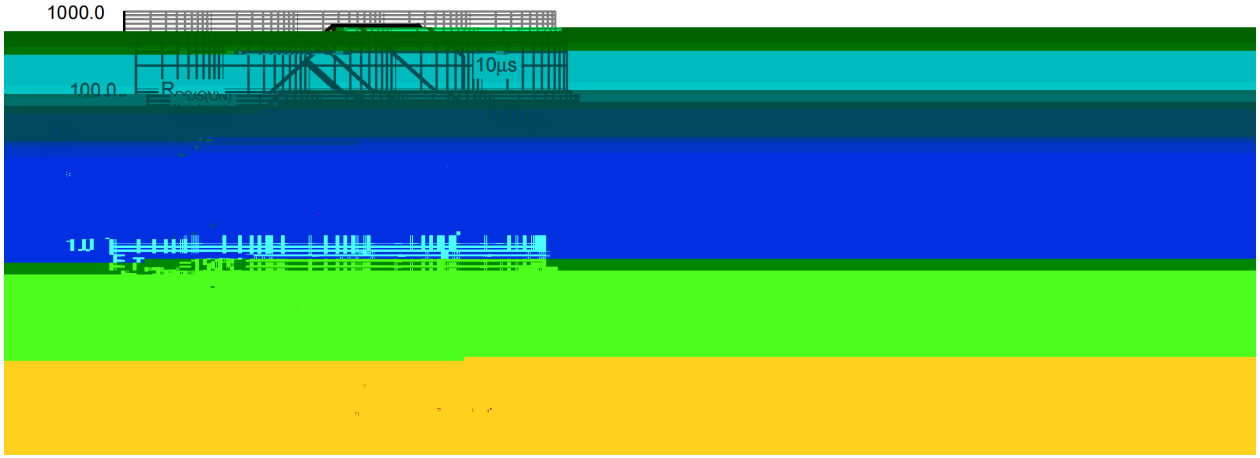
Figure 4: On-Resistance vs. Gate-Source Voltage

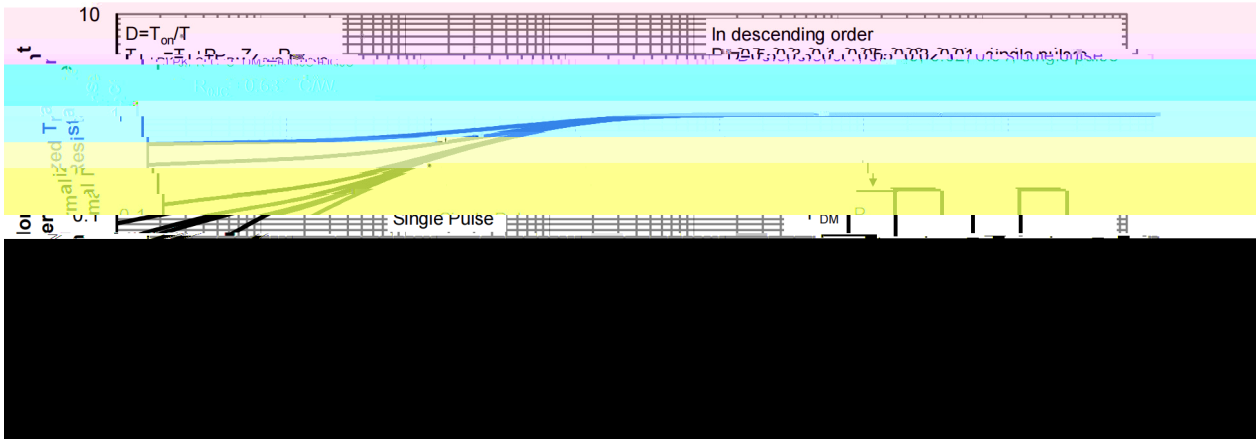
Figure 5: Body-Diode Characteristics



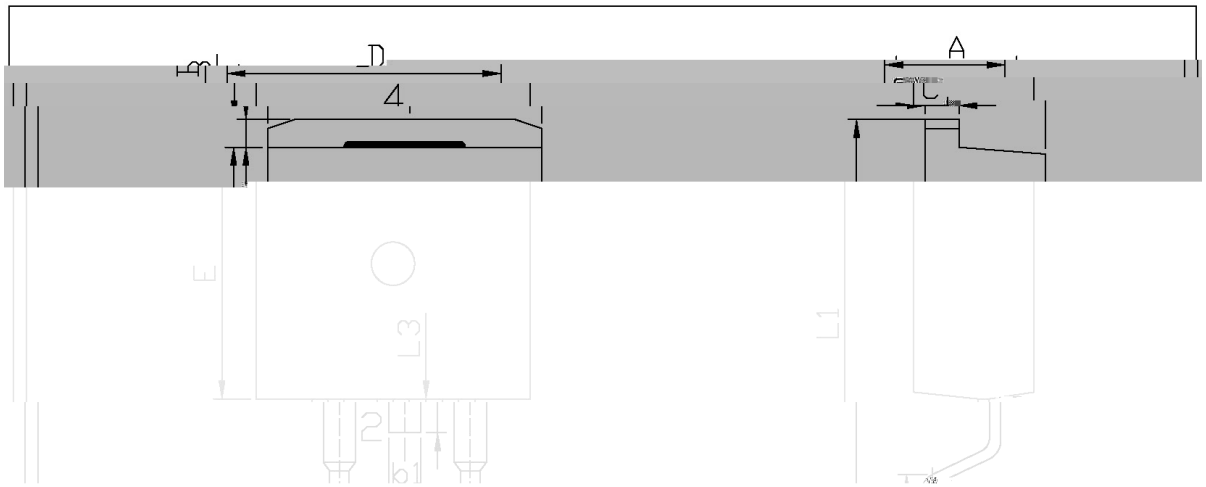
Ô ? d • Ž ¢ / Electrical Characteristic Curve







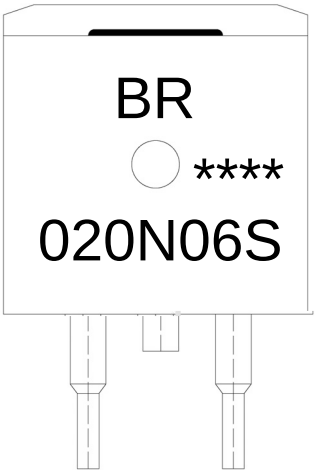
Ø ¤ =) ¢ / Package Dimensions



Min	Max	Min
A	4.30	4.70
B	1.00	1.40
b1	1.15	1.35
C	1.20	1.40
D	9.80	10.20
E	9.00	
e1	2.34	
L1		
L3		

Max	Min
9.40	
2.74	
15.00	16.00
2.64	2.84
1.20	1.60

, M y ƒ / Marking Instructions



ª ¢ y

(8 y ¸ [W A

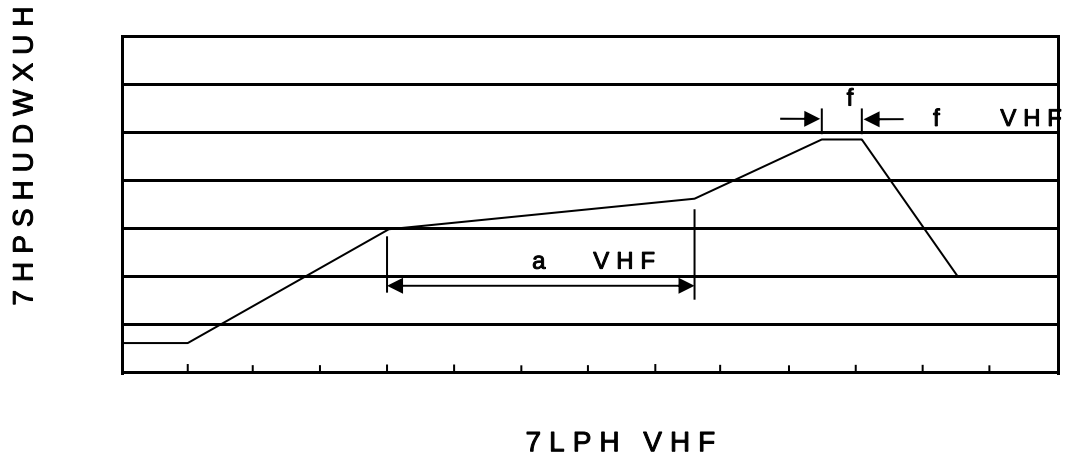
4 9 y º Z W A

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

š WD t … • Ž ¢ (x /) / : K S V K X G Z [X K 6 X U L O R K L U X / 8 8 K L R U] 9 U R J K X O T M 6



7 L P H V H F

ª ¢ y

Note:

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

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

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

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

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

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

ÂD /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 ¦H					Dimension ;>û p . (unit Æmm³)		
	Units/Reel / --	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Reel	Inner Box×	Outer Box1ç
TO-263	800	1	800	6	4,800	13 s ×24	360×360×50	380×335×366

ì ’ x / TUBE

Package Type 7>û ˜ E	Units ;>û ¦H					Dimension ;>û p . (unit Æmm³)		
	Units/Tube / •1×	Tubes/Inner Box •1× /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Tube•1×	Inner Box×	Outer Box1ç
TO-263	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

„ Ð y ƒ / Notices