

/ Descriptions

TO-263 N

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

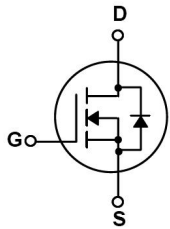
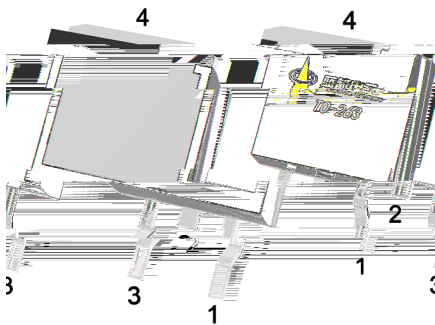
/ Features $V_{DS}=60V$ $I_D=225A$ $R_{DS(on)}@10V$ 2.2m (Type. 1.9m)

HF Product.

/ Applications

BLDC

High Efficiency Synchronous Rectification in SMPS, Uninterruptible Power Supply, BLDC Motor drive applications, Battery powered circuits.

/ Equivalent Circuit**/ Pinning**

PIN1 G PIN 2 4 D PIN 3 S

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	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	/W
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.63	

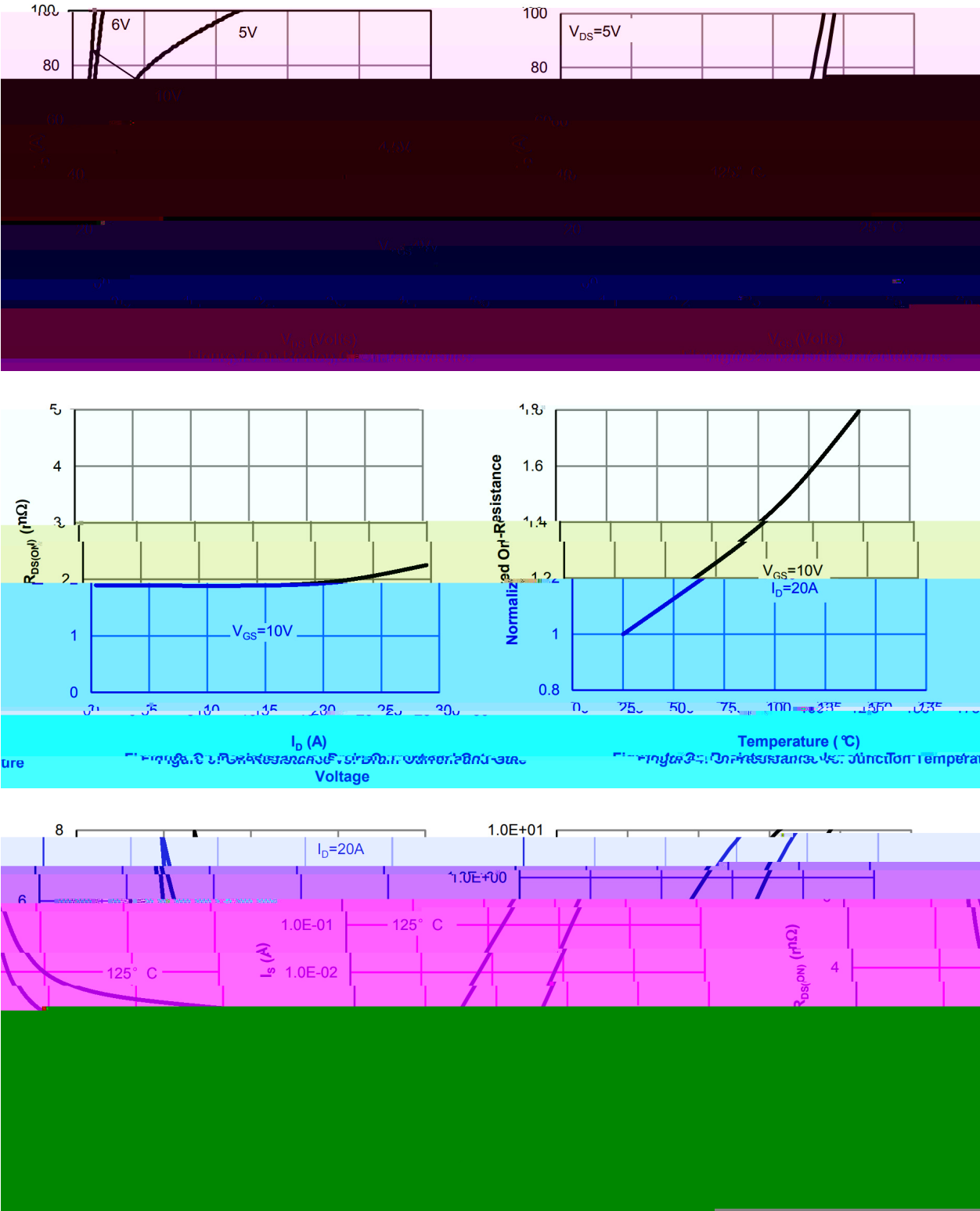
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\text{A}$	60	65		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V$ $V_{GS}=0V$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{A}$	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		1.9	2.2	m
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Gate resistance	R_g	$f=1\text{MHz}$		1.0		
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1\text{MHz}$		6700		pF
Output Capacitance	C_{oss}			1400		
Reverse Transfer Capacitance	C_{rss}			70		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=10V$ $V_{DS}=30V$ $I_D=20A$		60		nC
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



/ Electrical Characteristic Curve

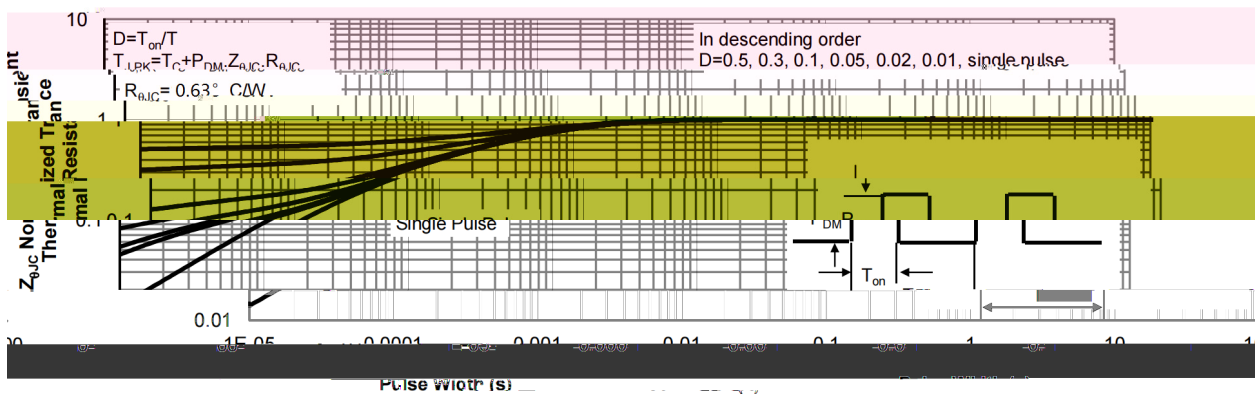
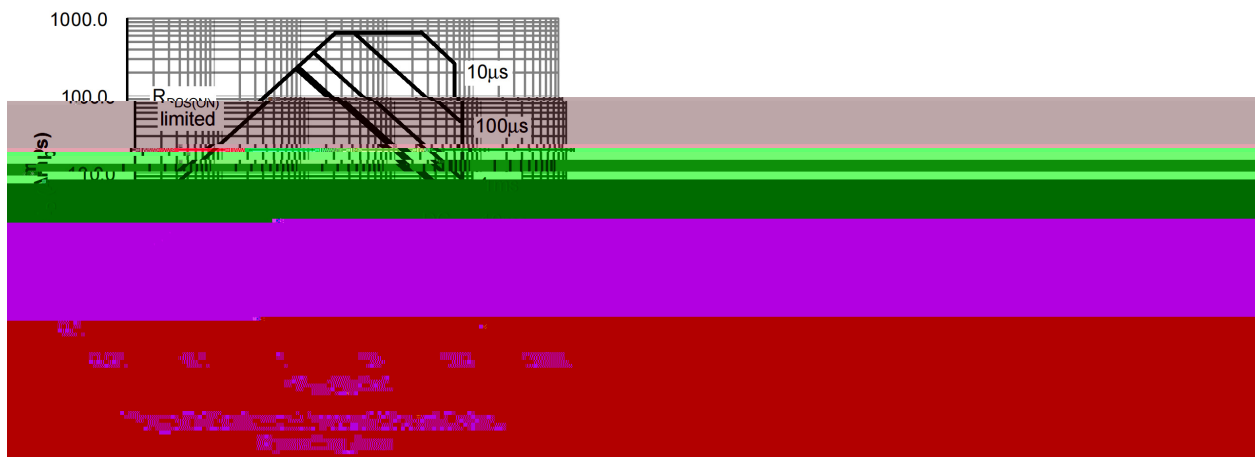
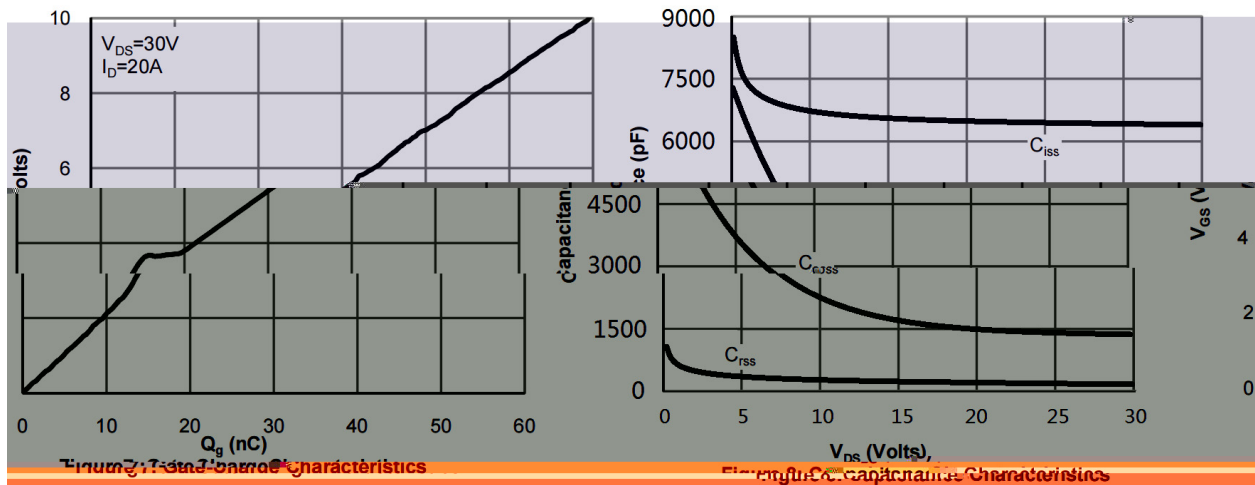
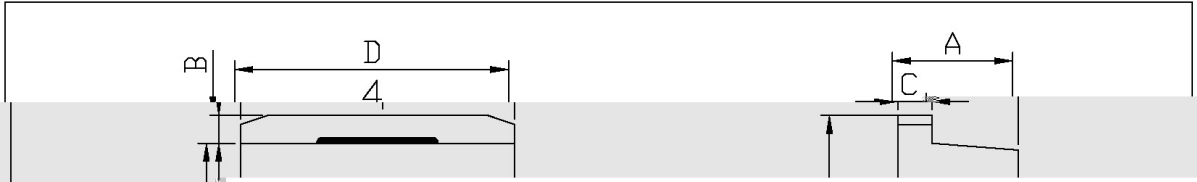


Figure 10: Normalized Maximum Transient Thermal Impedance

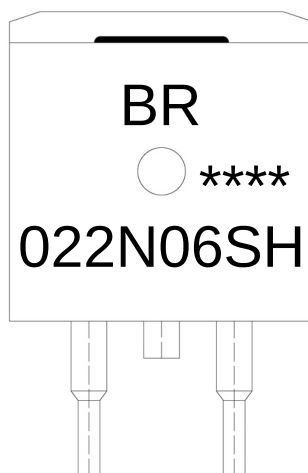
/ Package Dimensions



单位: mm							
Dimensions in Millimeters	Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters		
		Min	Max		Min	Max	
9.40	A	4.30	4.70	E	9.00		
2.74	B	1.00	1.40	e1	2.24		
5.28	b	0.70	0.90	e2	4.88		
16.00	b1	1.15	1.35	J1	15.00		
2.84	b2	0.40	0.60	L2	2.24		
1.60	C	1.20	1.40	L3	1.20		
	D	9.80	10.20				



/ Marking Instructions



BR

022N06SH

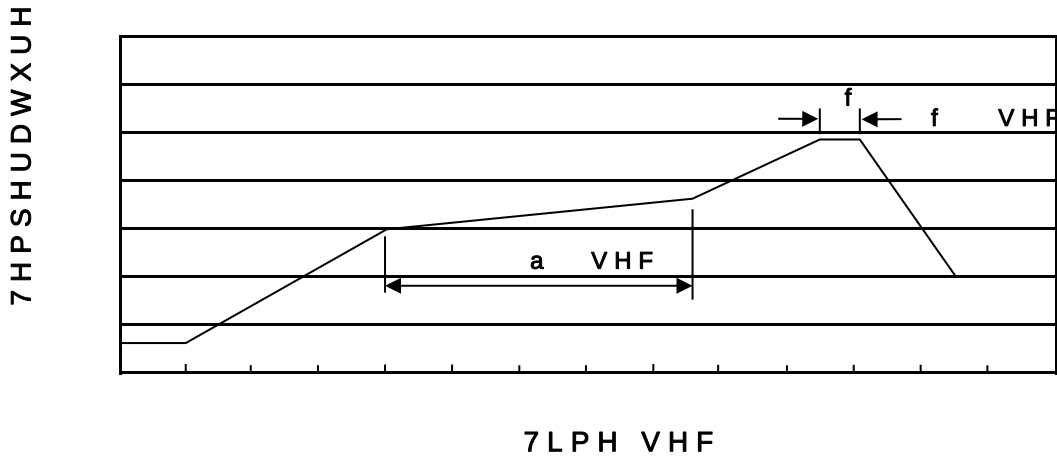
Note:

BR: Company Code

022N06SH: Product Type Code

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | |
|---|---------|-----------|---|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | 2 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 7>û ~ E	Units ;>û H					Dimension ;>û p . (unit /mm³)		
	Units/Reel / --	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /lç	Units/Outer Box /lç	Reel	Inner Box	Outer Boxç
TO-263	800	1	800	6	4,800	13 s ×24	360×360×50	380×335×366

/ TUBE

Package Type 7>û ~ E	Units ;>û H					Dimension ;>û p . (unit /mm³)		
	Units/Tube /•1×	Tubes/Inner Box •1× /-	Units/Inner Box /-	Inner Boxes/Outer Box - /lç	Units/Outer Box /lç	Tube•1×	Inner Box	Outer Boxç
TO-263	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

/ Notices