

/ Descriptions

TO-263 N

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

/ Features

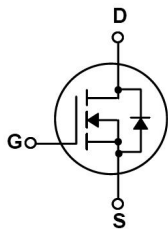
Ultra Low On-Resistance, fast switching, HF Product.

/ Applications

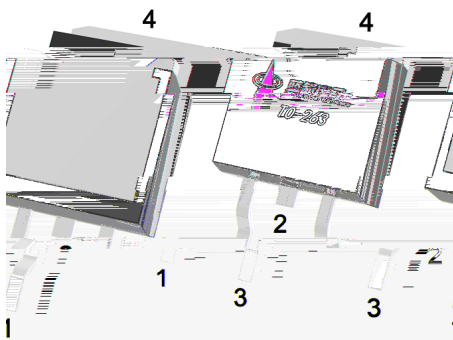
BMS

BMS appliances, High power inverter system, Power appliances

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 4 D PIN 3 S

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	80	V
Drain Current		$I_D(T_C=25^{\circ}\text{C})$	195	A
Pulsed Drain Current		I_{DM}	400	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy L=0.5mH		E_{AS}	1200	mJ
Avalanche Current		I_{AS}	47.5	A
Total Power Dissipation		$P_D(T_C=25^{\circ}\text{C})$	227	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	15	/W
	Steady-State		60	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.55	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$	$I_D=250\mu\text{A}$	80	94		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=80\text{V}$	$V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$	$V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu\text{A}$	2	2.9	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$	$I_D=30\text{A}$		2.9	3.5	m Ω
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$	$I_S=1\text{A}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}$ $f=1\text{MHz}$	$V_{GS}=0\text{V}$		6350		pF
Output Capacitance	C_{oss}				2440		
Reverse Transfer Capacitance	C_{rss}				305		

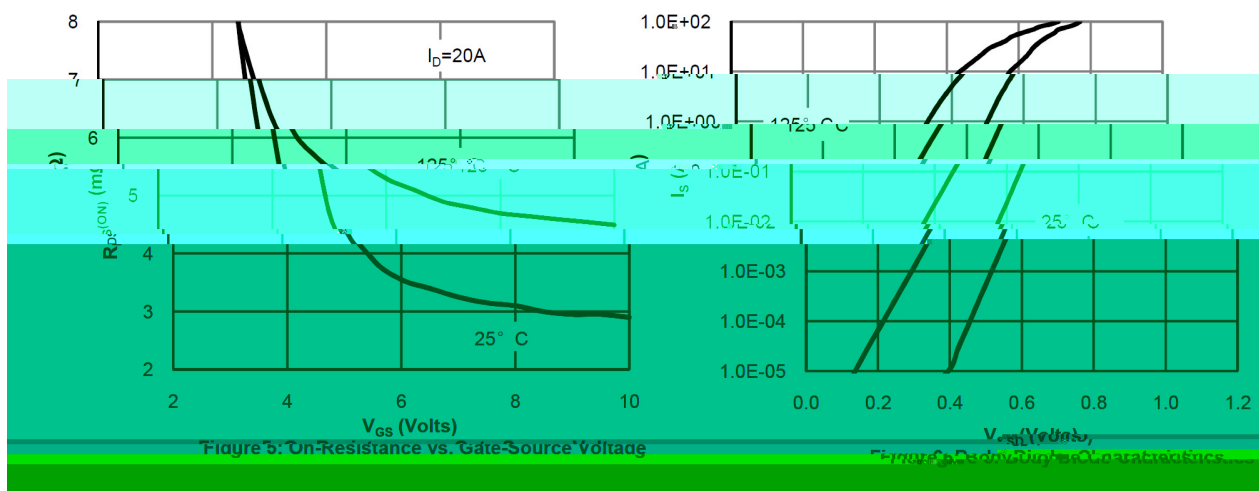
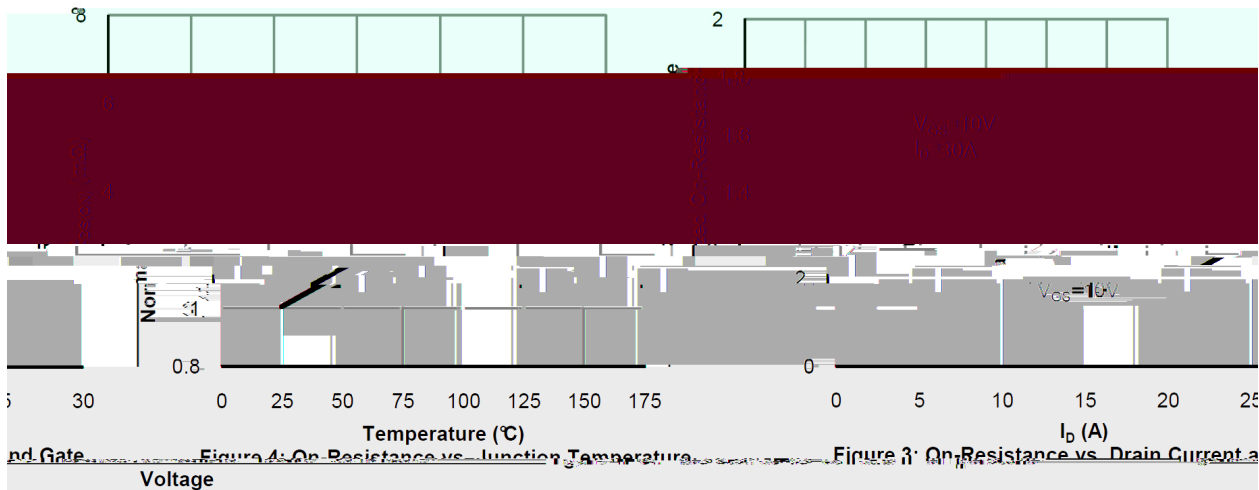
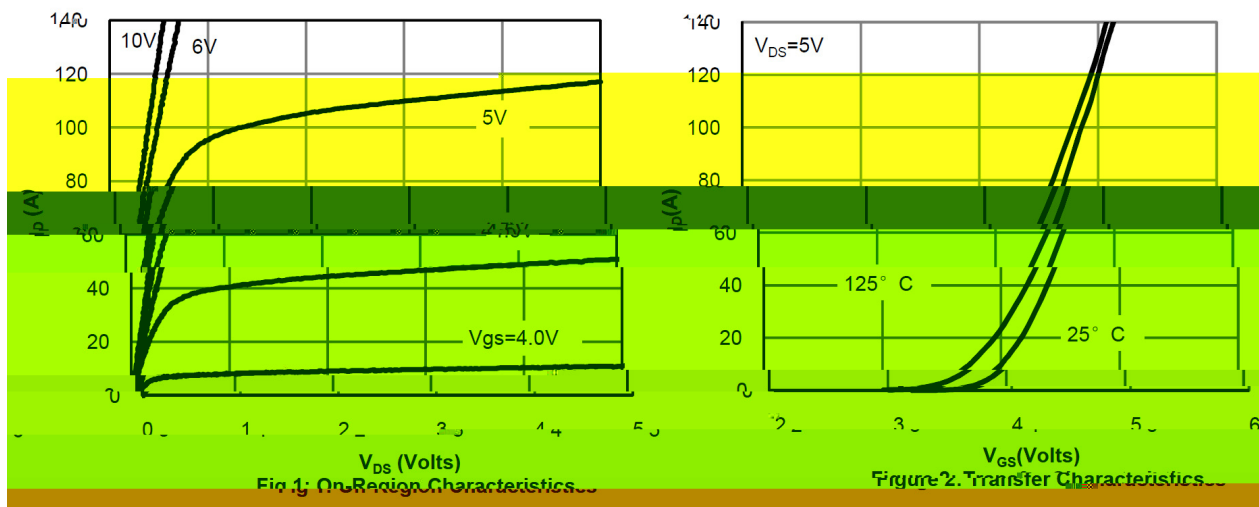
BRCS035N08SHBD

Rev.A Feb.-2023

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate resistance	R_g	$f=1\text{MHz}$		1.6		Ω
Total Gate Charge	Q_g	$V_{GS}=10\text{V}$ $V_{DS}=40\text{V}$ $I_D=20\text{A}$		128		nC
Gate Source Charge	Q_{gs}			36		
Gate Drain Charge	Q_{gd}			23		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10\text{V}$ $V_{DS}=40\text{V}$ $R_L=2\Omega$ $R_{GEN}=3\Omega$		25		ns
Turn-On Rise Time	t_r			19		
Turn-Off Delay Time	$t_{d(off)}$			56		
Turn-Off Fall Time	t_f			18		

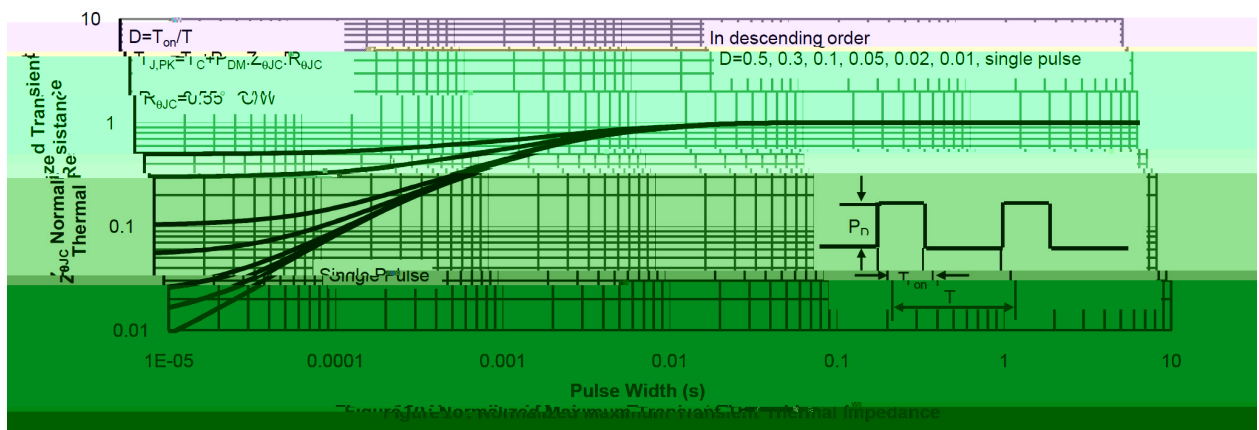
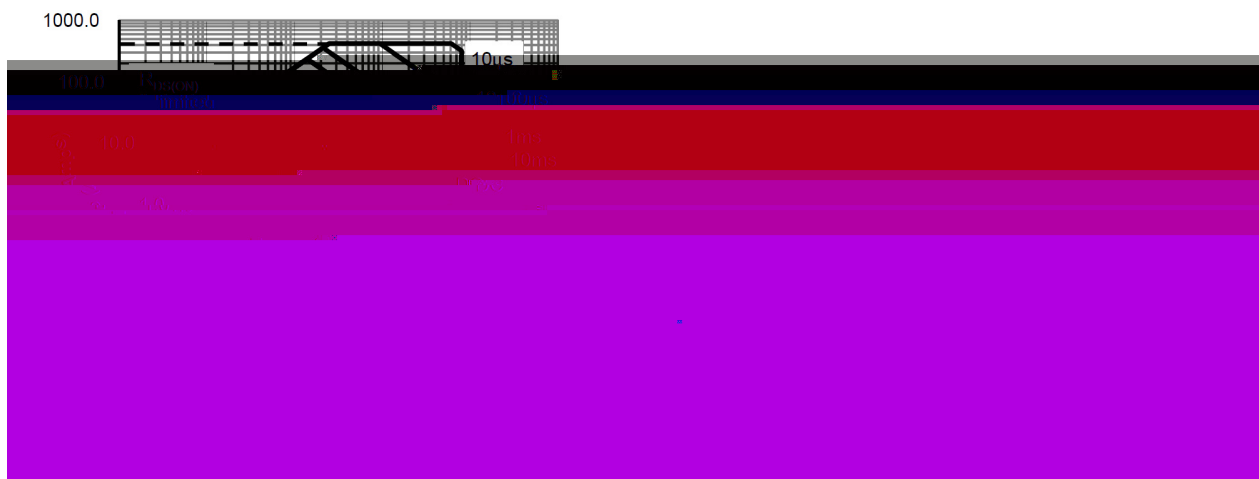
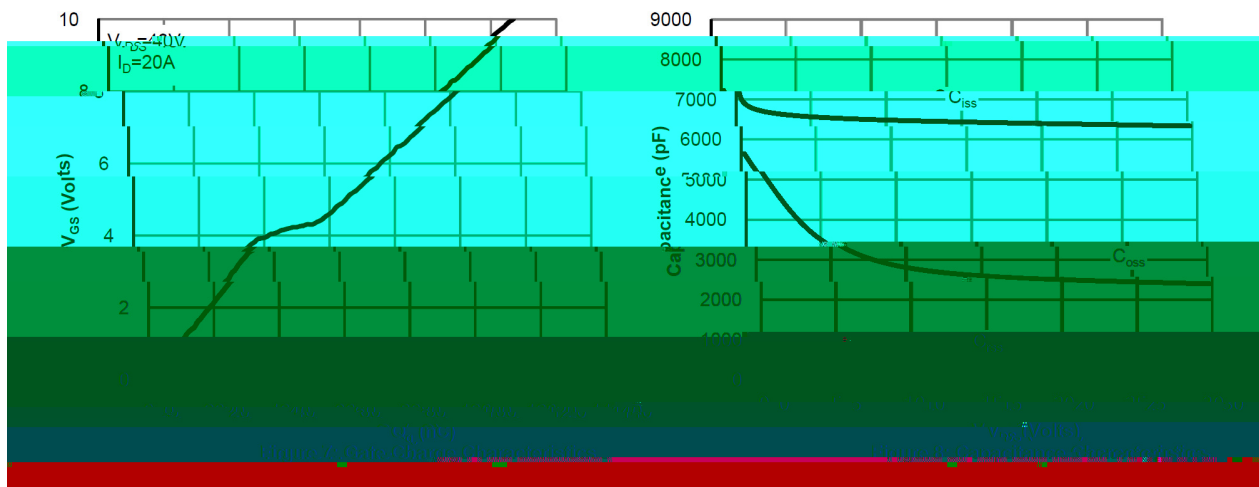


Electrical Characteristic Curve

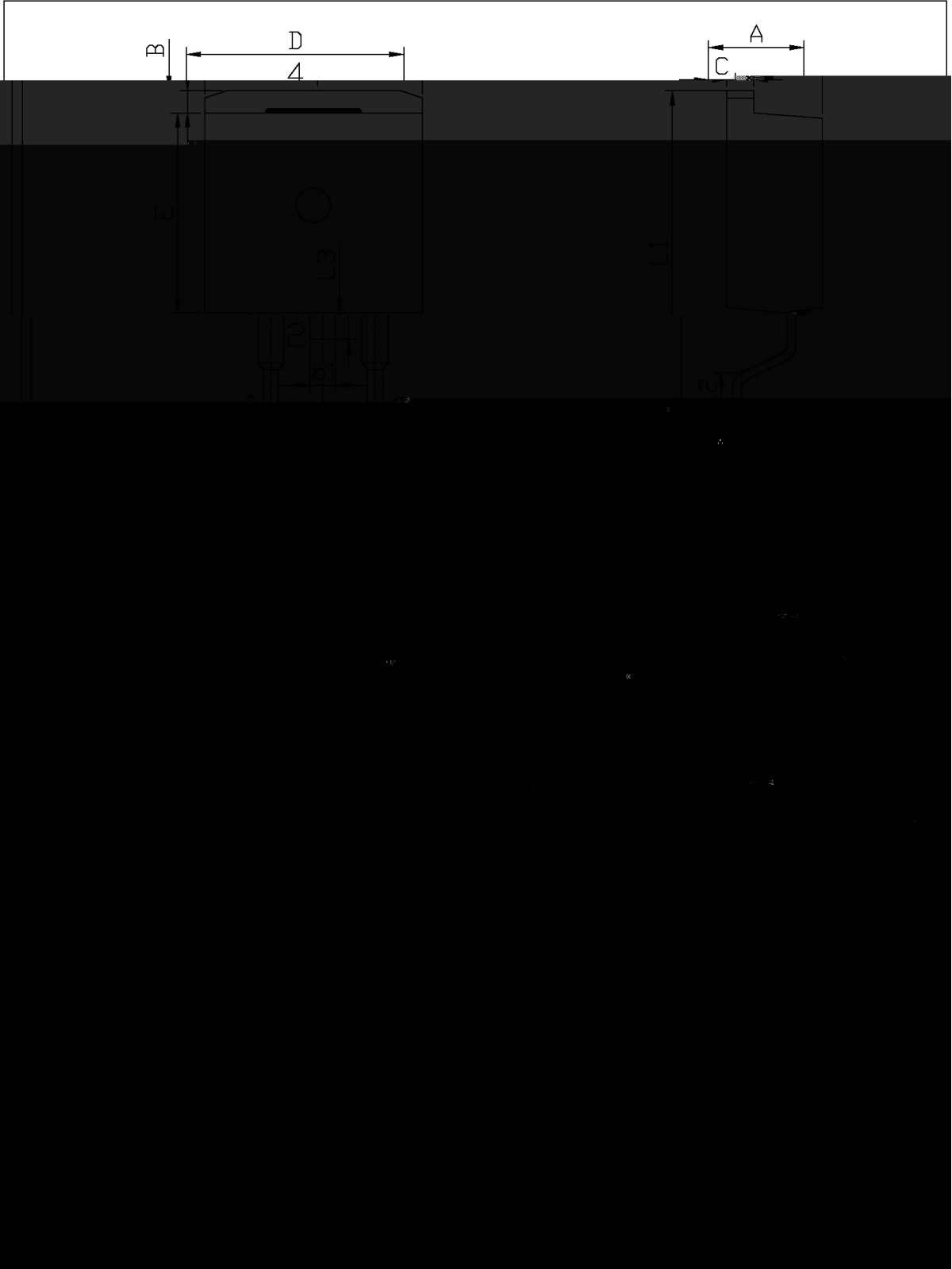




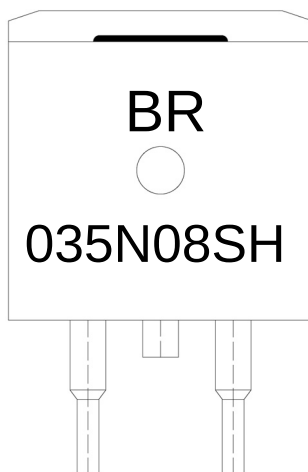
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

035N08SH

Note:

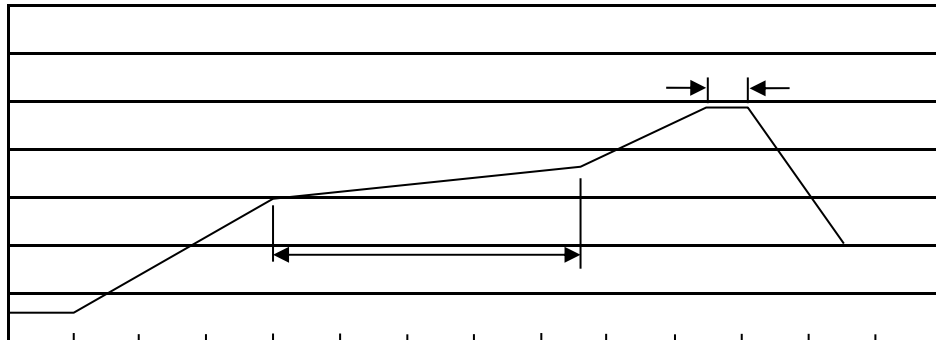
BR: Company Code

035N08SH: Product Type

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



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Note:

- 1 150 180 60 90sec;
- 2 245±5 5±0.5sec;
- 3 2 10 /sec.

- 1.Preheating:150~180 , Time:60~90sec.
- 2.Peak Temp.:245±5 , Duration:5±0.5sec.
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	Units					Dimension (unit mm ³)		
TO-263	800	1	800	6	4,800	13" ×24	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
TO-263	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

/ Notices