

BRC5N10MC

Rev.E Apr.-2024

/ Descriptions

SOT23-3 N

N- CHANNEL MOSFET in a SOT23-3 Plastic Package.

/ Features

$V_{DS}=100V$ $I_D=5A$

$R_{DS(on)1}@10V$ 175m (Type.120m)

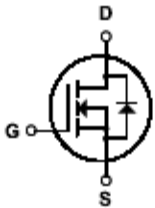
$R_{DS(on)2}@4.5V$ 235m (Type.150m)

HF Product.

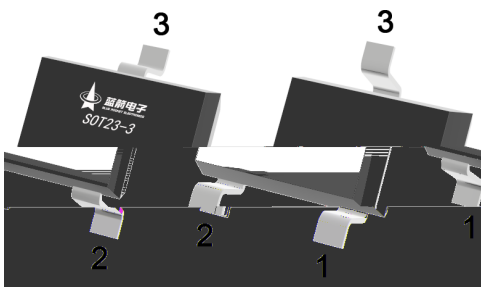
/ Applications

Power management in TV Inverter. Power Switch.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 S

PIN 3 D

/ Marking

Marking	H5N1
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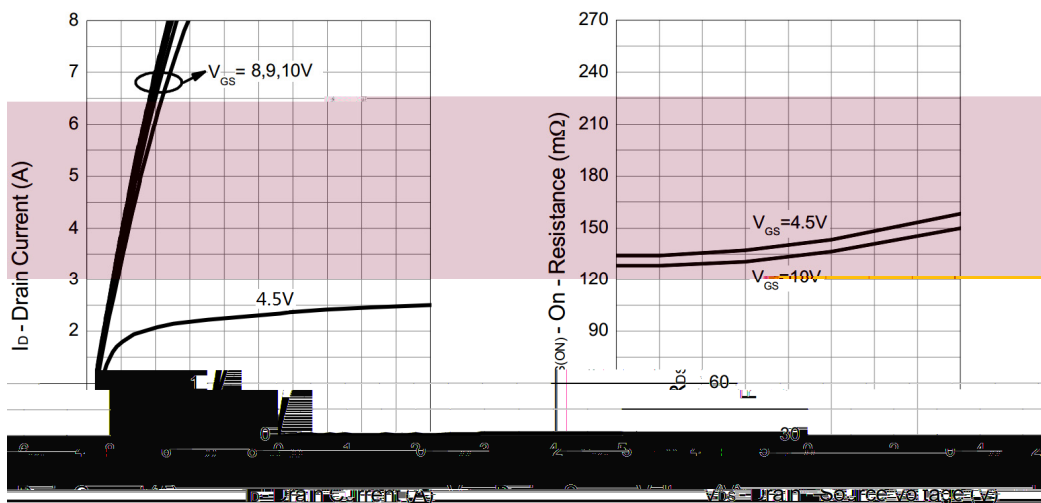
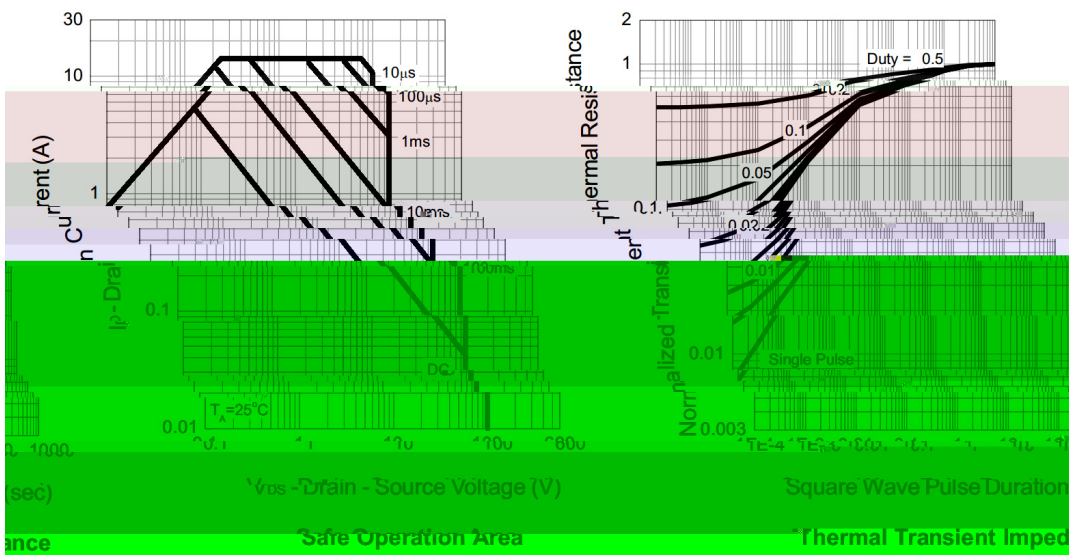
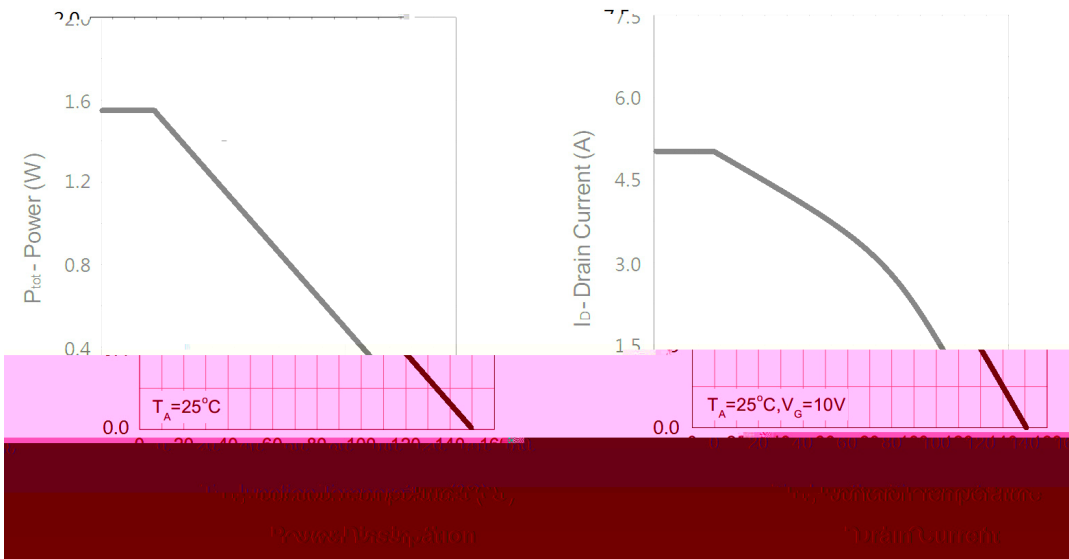
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DSS}	100	V
Gate-Source Voltage	V _{GSS}	±20	V
Maximum Drain Current - Continuous	I _D	5.0	A
Drain Current- Pulsed	I _{DM}	15	A
Power Dissipation	P _D	1.55	W
Maximum Junction Temperature	T _J	150	
Storage Temperature Range	T _{STG}	-55 to 150	
Maximum Resistance –Junction to Ambient	R _{JA}	80.7	/W

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _{DS} =250μA	100			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V V _{GS} =0V			1	μA
Gate–Body Leakage.	I _{GSS}	V _{GS} =±20V V _{DS} =0V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} I _{DS} =250μA	1		3	V
Static Drain–Source On–Resistance	R _{DS(on)(1)}	V _{GS} =10V I _D =5A		120	175	m
	R _{DS(on)(2)}	V _{GS} =4.5V I _D =2A		150	235	m
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V I _F =1A			1.3	V
Input Capacitance	C _{iss}	V _{DS} =0V V _{GS} =25V f=1.0MHz		200		pF
Output Capacitance	C _{oss}			150		pF
Reverse Transfer Capacitance	C _{rss}			30		pF
Turn–On Delay Time	t _{d(on)}	I _{DS} =1A V _{GEN} =10V V _{DD} =30V R _L =30 R _G =6		11		ns
Turn–On Rise Time	t _r			10		ns
Turn–Off Delay Time	t _{d(off)}			21		ns
Turn–Off Fall Time	t _f			5		ns
Total Gate Charge	Q _g	V _{DS} =50V V _{GS} =10V I _{DS} =5A		9.5		nC
Gate- Source Charge	Q _{gs}			1.9		nC
Gate- Drain Charge	Q _{gd}			2.1		nC

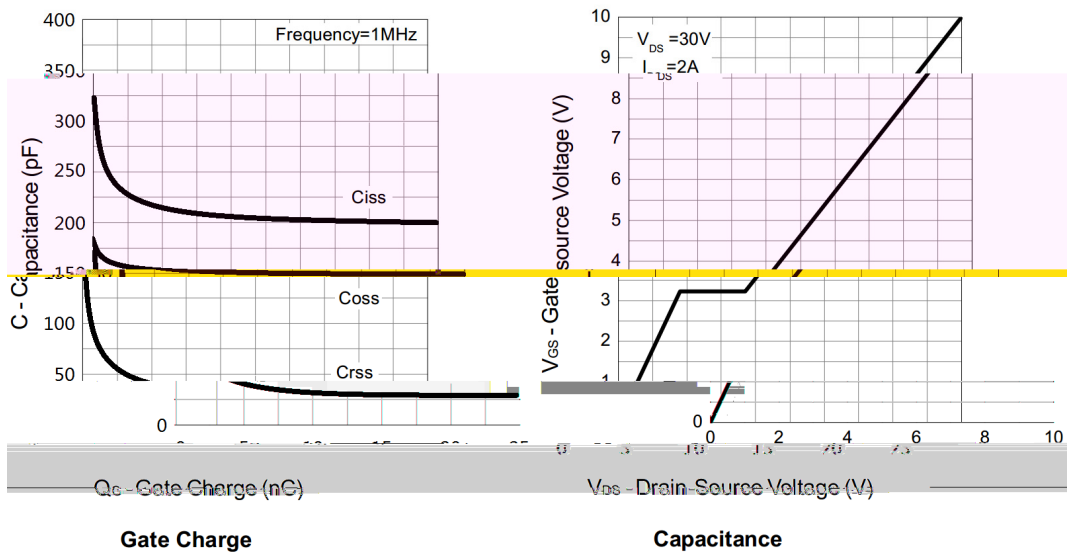
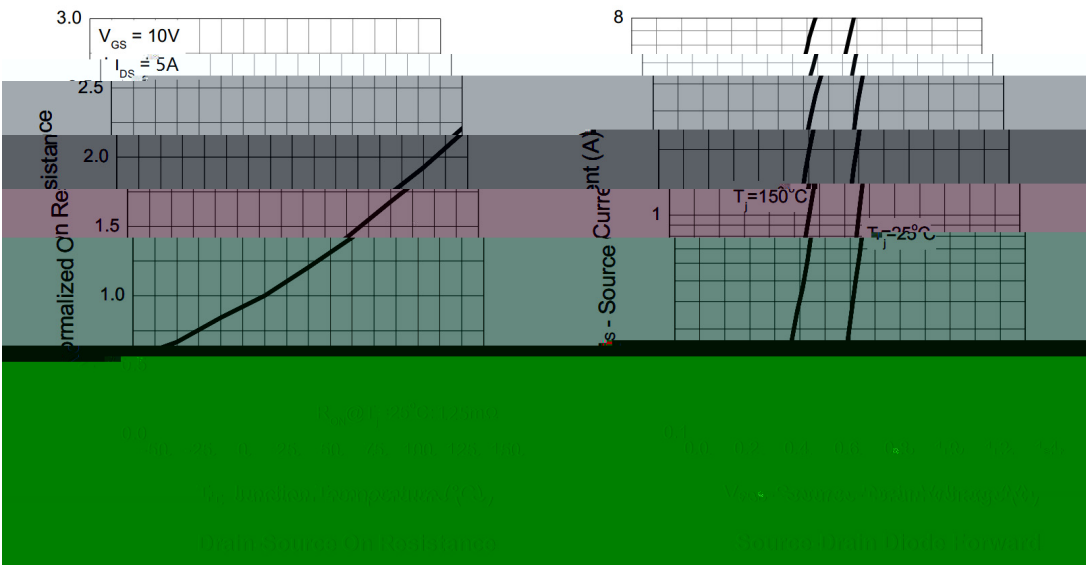
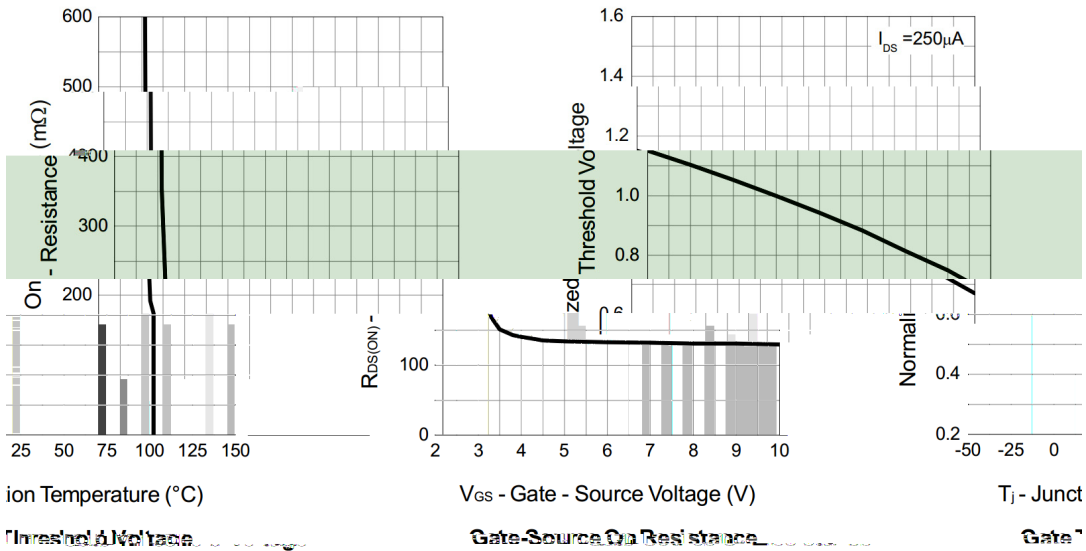
/ Electrical Characteristic Curve



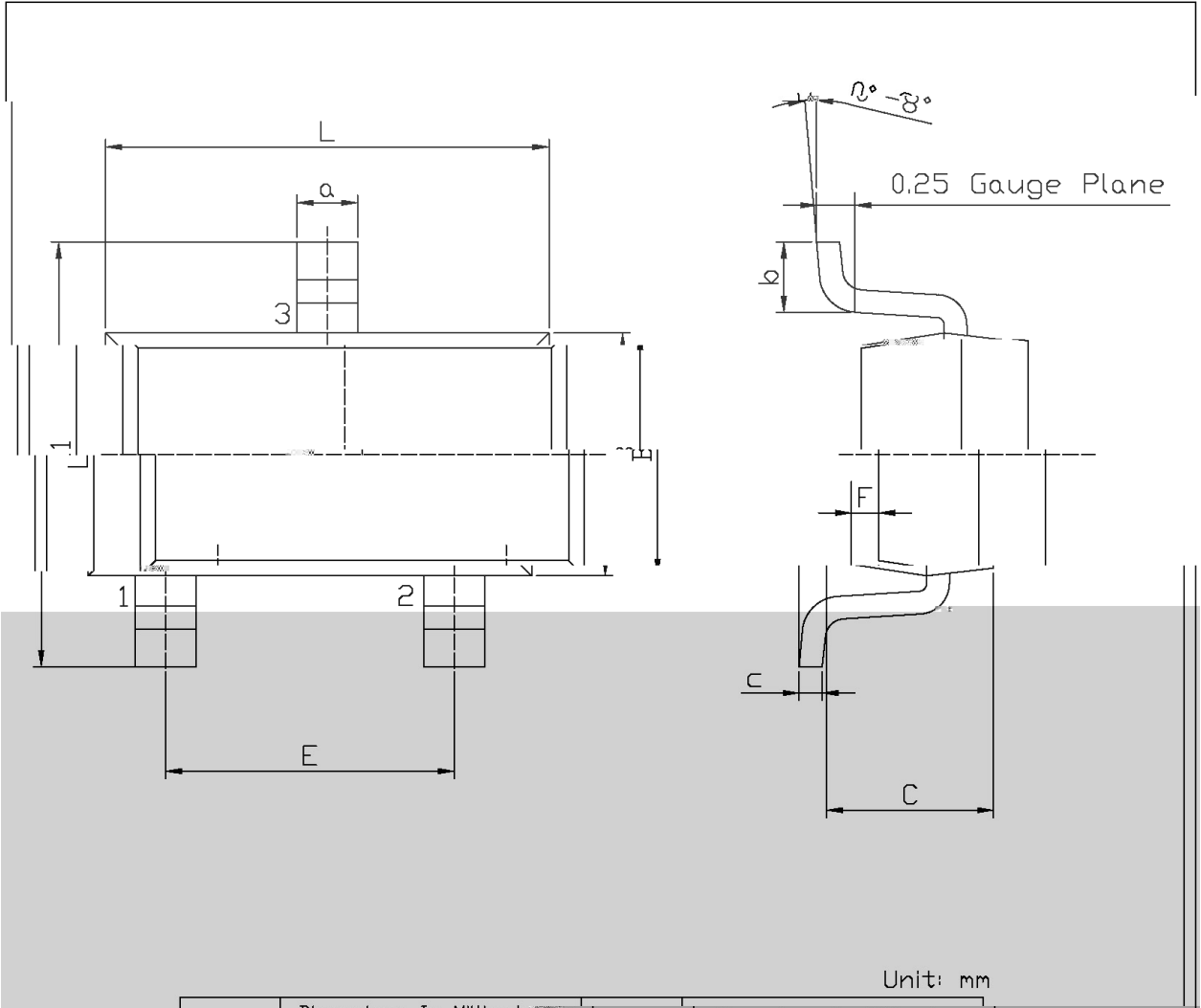
Drain-Source On Resistance

Output Characteristics

/ Electrical Characteristic Curve



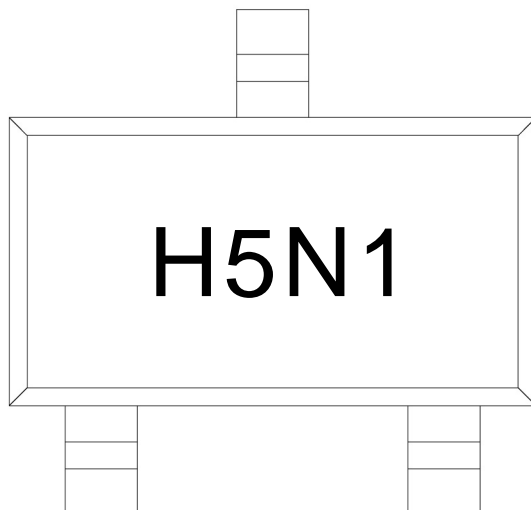
/ Package Dimensions



Unit: mm



/ Marking Instructions



H:

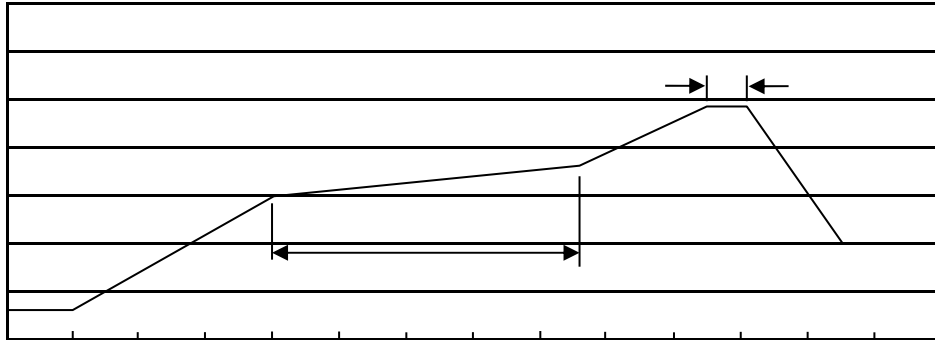
5N1

Note:

H Company Code

5N1: Product Type Code

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Note:

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|---|---------|-----------|---|
| 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	Units					Dimension (unit mm ³)		
SOT23-3	3,000	10	30,000	4	120,000	7 x8	210x205x205	445x435x230

/ Notices