

BRCS080N10SBD

Rev.A Jun.-2024

/ Descriptions

TO-263 N

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

/ Features

$V_{DS}=100V$ $I_D=73A$

$R_{DS(ON)}@10V \leq 8m\Omega$ (Typ.6.2m Ω)

$R_{DS(ON)}@4.5V \leq 12m\Omega$ (Typ.8.2m Ω)

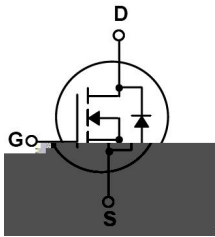
HF Product.

/ Applications

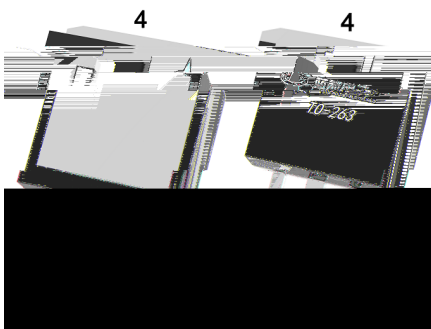
PFC

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

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 4 D PIN 3 S

/ Marking

See Marking Instructions.

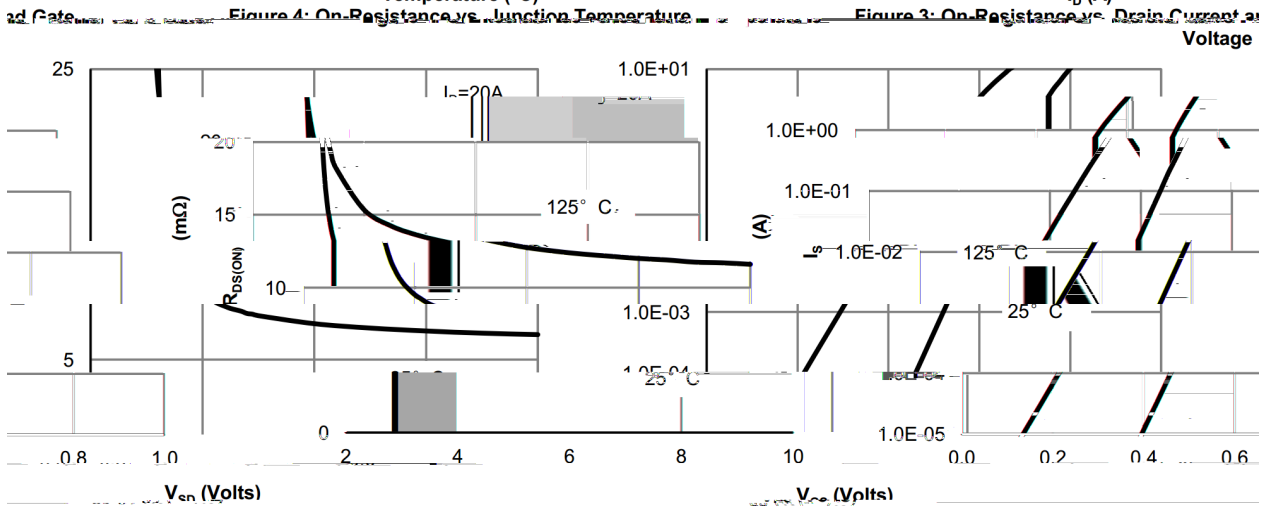
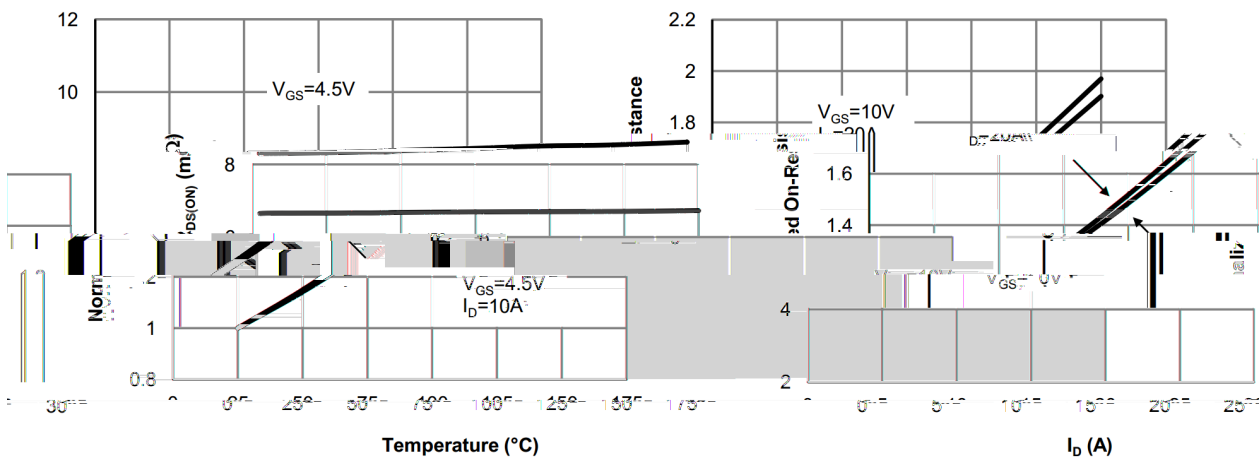
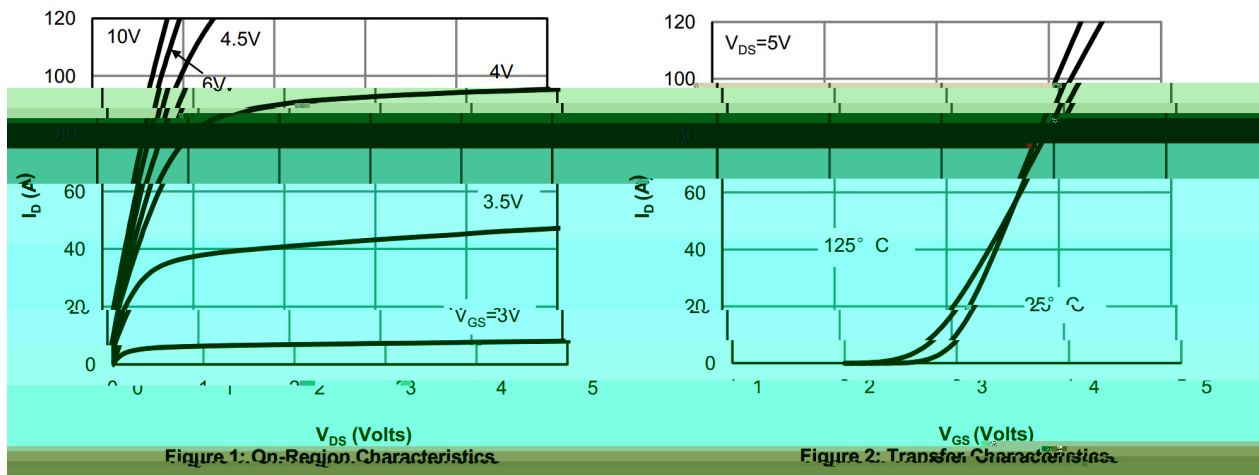
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	100	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	73	A
Pulsed Drain Current		I_{DM}	190	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy $L=0.5\text{mH}$		E_{AS}	78.8	mJ
Avalanche Current		I_{AS}	15	A
Total Power Dissipation		$P_D(T_C=25^\circ\text{C})$	90	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	$R_{\theta JC}$	1.4	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\text{ }\mu\text{A}$	100	109		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}$ $V_{GS}=0\text{V}$			1.0	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ }\mu\text{A}$	1	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		6.2	8	m
	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		8.2	12	m
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V
Gate resistance	R_g	$V_{GS}=0\text{V}$ $V_{DS}=0\text{V}$, $f=1\text{MHz}$		1.3		
Input Capacitance	C_{iss}					

/ Electrical Characteristics(Ta=25)

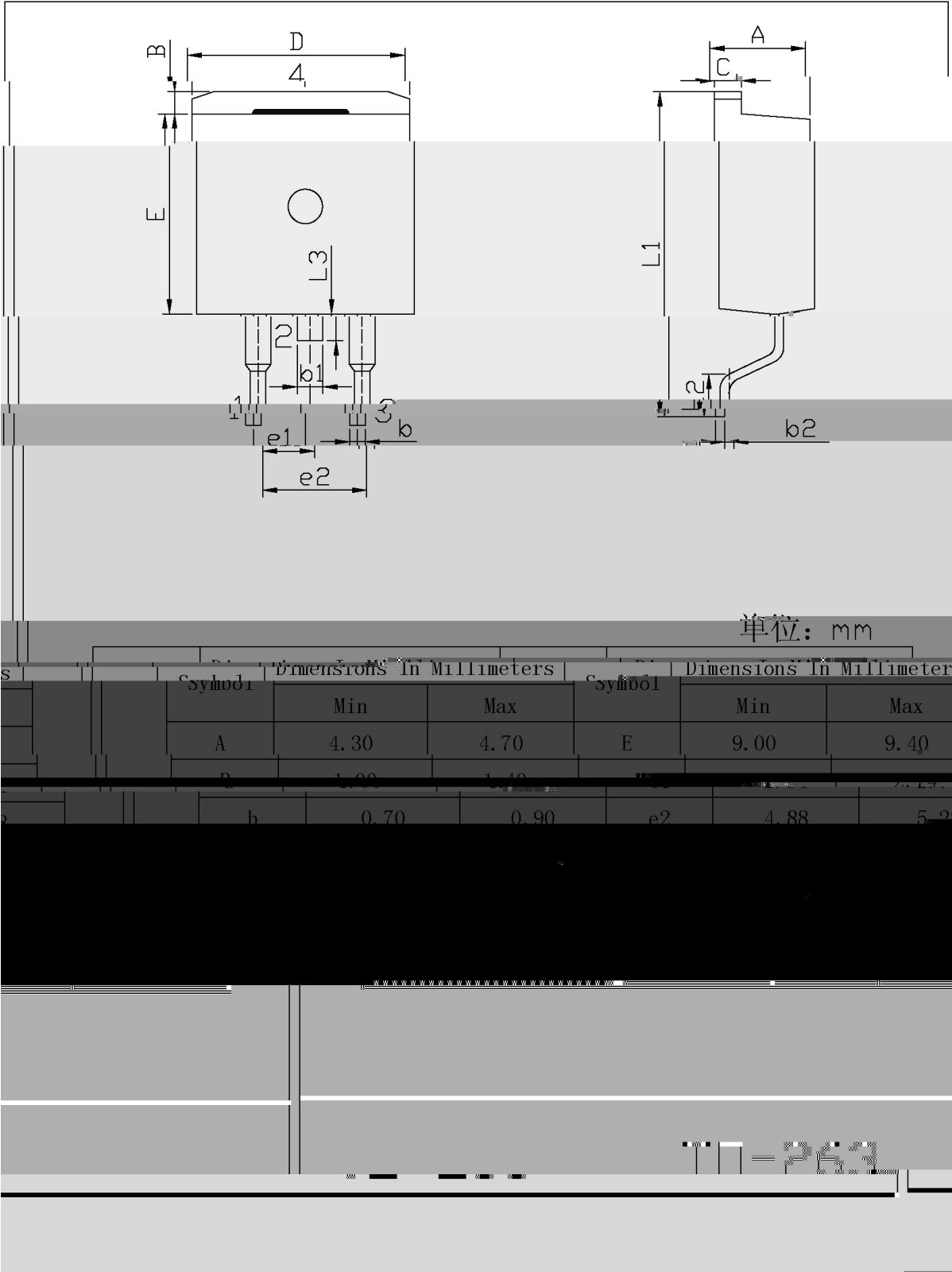
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	t _{d(on)}	V _{GS} =10V V _{DS} =50V R _L =2.5 R _{GEN} =3		11		ns
Turn-On Rise Time	t _r			4		
Turn-Off Delay Time	t _{d(off)}			32		
Turn-Off Fall Time	t _f			6.3		

I Electrical Characteristic Curve

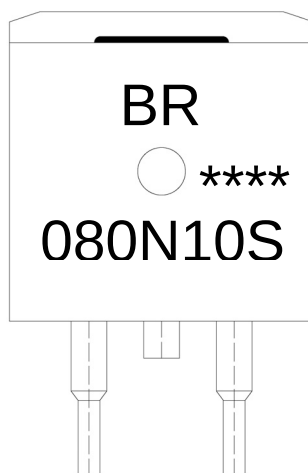




/ Package Dimensions



/ Marking Instructions



BR

080N10S

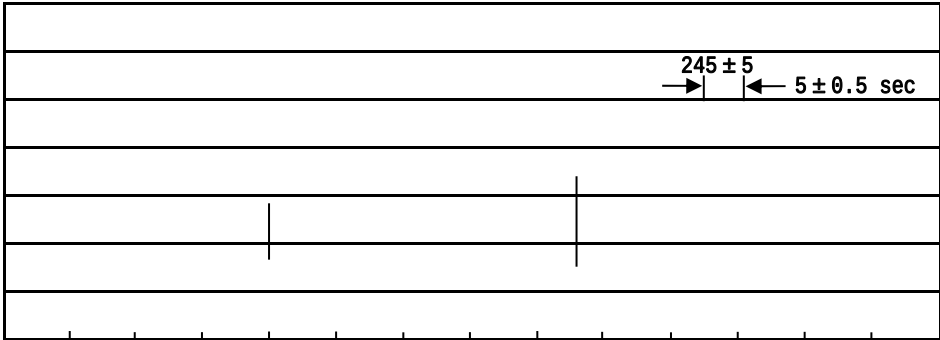
Note:

BR: Company Code

080N10S: Product Type Code

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

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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	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