BRG20N120D

Rev.D Oct.-2015

DATA SHEET

/ Descriptions

WR06S ṂṂ Ł ʌ ɹ ᵪ Ⅱ ὺ ч ᒣ Insulated-Gate Bipolar Transistor in a TO-3P Plastic Package.

/ Features

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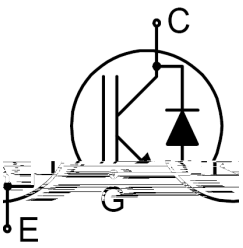
Low gate charge,, Low saturation voltage ,Positive temperature coefficient, RoHS product.

/ Applications

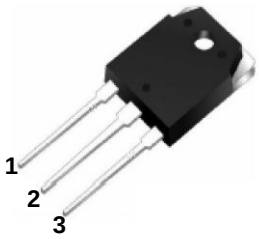
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General purpose inverter, Frequency converters, Induction Heating(IH), Uninterrupted Power Supply(UPS).

/ Equivalent Circuit



/ Pinning



PIN1 χ Gate PIN 2 χ Collector PIN 3 χ Emitter

/ h_{FE} Classifications & Marking

ծ м ヽ ب ˝ See Marking Instructions.

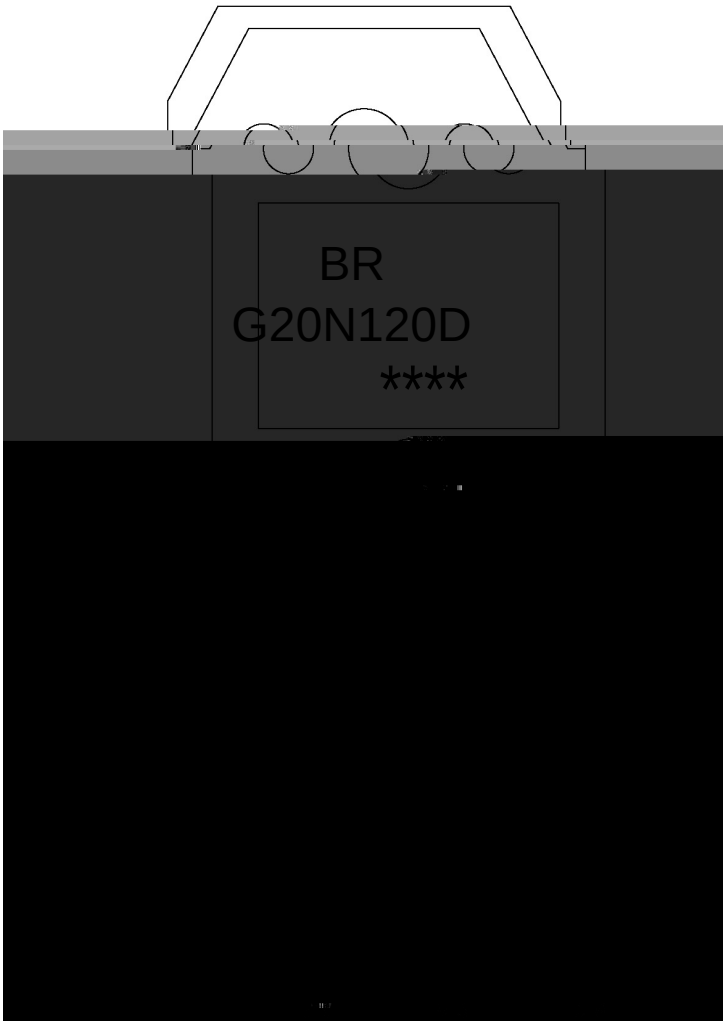
v ̈Ω Parameter	ϒ N Symbol	̈Ω Ö Rating	D Ч Unit
Collector-emitter voltage	V_{CES}	1200	V
Gate-emitter voltage	V_{GES}	±20	V
Collector current	I_C	40	A
Collector current@T_C=100		20	A
Collector peak current, T_P limited by T_{JMAX}	I_{CM}	60	A
Diode forward current@T_C=100	I_F	20	A
Diode maximum forward current	I_{FM}	60	A
Power dissipation(T_C=25)	P_D	240	W
Power dissipation(T_c=100)		96	W
Operating junction and storage temperature range	$T_{J,}$ T_{stg}	-55 150	
Maximum temperature for soldering	T_L	300	
IGBT thermal resistance,junction-case	$R_{th(j-c)}$	0.52	/W
Diode thermal resistance,junction-case	$R_{th(j-C)}$	2.4	/W
Thermal resistance,junction-ambient	$R_{th(j-a)}$	40	/W

v ̈Ω Parameter	ϒ N Symbol	⅄ ː ϯ Ţ Test Conditions	ώ ṇ Ö Min	Ɛ ʒ Ö Typ	ώ ᶻ Ö Max	D Ч Unit
Collector-emitter breakdown voltage	V_{CES}	V_{GE}=0V I_{CE}=250uA	1200	-	-	V
Zero gate voltage Collector current	I_{CES}	V_{GE}=0V V_{CE}=1200V	-	-	1	mA
Gate-body leakage current	I_{GES}	V_{GE}=±20V V_{CE}=0V	-	-	±250	nA
Gate threshold voltage	$V_{GE(th)}$	I_C=15mA V_{CE}=V_{GE}	3.5	-	7.5	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=20A V_{GE}VC				

v ̈Ω Parameter	ϒ N Symbol	⊪ ;ǂ ţ Test Conditions	ώ ņ Ö Min	Ɛ ʒ Ö Typ	ώ ᶻ Ö Max	ɒ Ɥ Unit
Turn-on delay time	$t_{d(ON)}$	V_{CC}=600V I_C				

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/ Marking Instructions

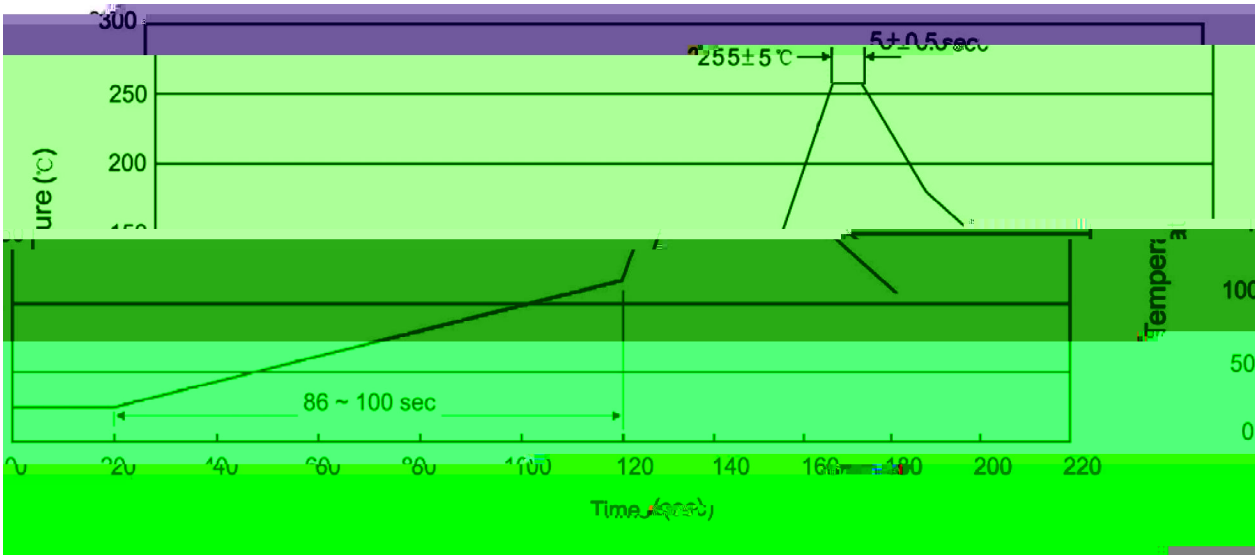


EU:	
J53Q453G	

Note:

BR:	Company Code.
G20N120D:	Product Type.
****:	Lot No. Code, code change with Lot No.

( ) / Temperature Profile for Dip Soldering(Pb-Free)



ب ˝ χ

1 Ĺ ♬ □ ỷ 25 Ḱ 150 ł ı `H ڑ 60 Ḱ 90sec;

2 Š Ë □ ỷ 255 ° 5 ł ı `H ڑ `Y ﾊ ㎞ 5 ° 0.5sec;

3 ì ˙ ﾘ ˛ ↄ ﻩ ỷ ㎞ 2 Ḱ 10 ł /sec.

Note:

1.Preheating:25~150 ł , Time:60~90sec.

2.Peak Temp.:255 ° 5 ł , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ł /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 270 ° 5 ł `H ڑ χ 10 ° 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

˝ ｱ ｬ Ł / TUBE

Package Type	Units					Dimension (unit mm³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-3P	30	15	450	5	2250	497.5×46×8	555×164×50	575×290×180

/ Notices