

/ Descriptions

WR06S M M N 1 2 3 Insulated-Gate Bipolar Transistor in a TO-3P Plastic Package.

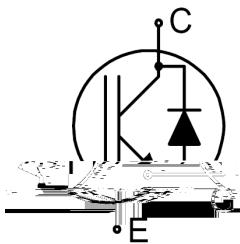
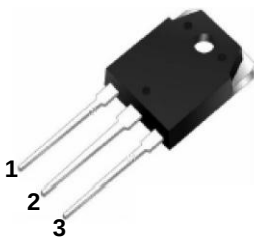
/ Features

Q_g , U_{CE(sat)} , β , T_j = 25℃ U_{CE} = 120V f_T

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

/ Applications

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

M 1 " See Marking Instructions.

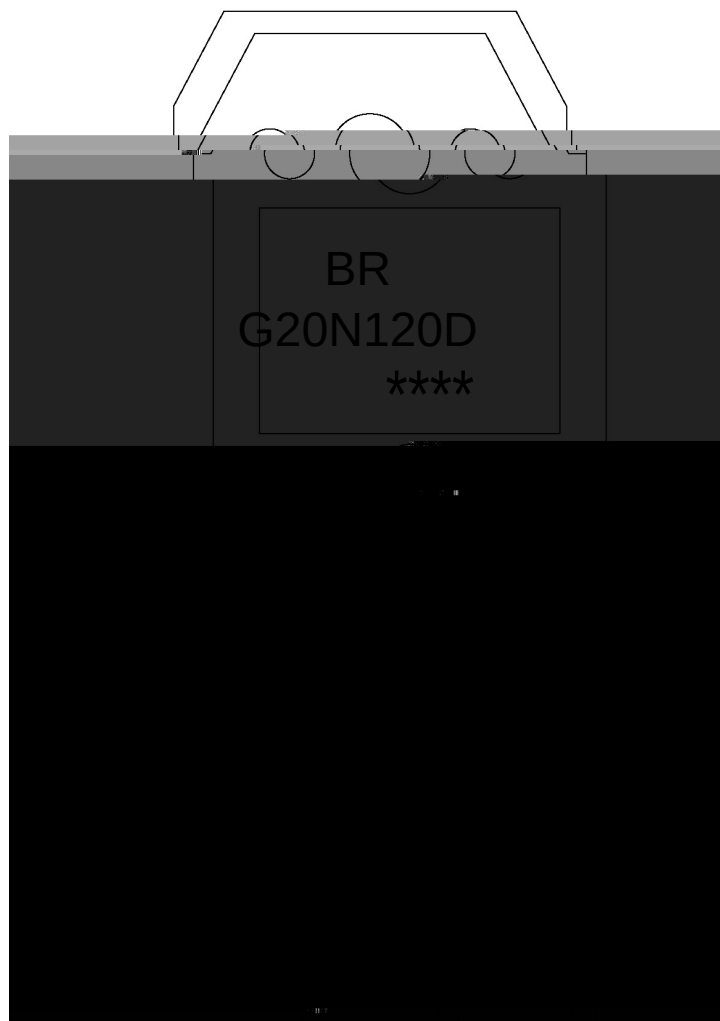
Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CES}	1200	V
Gate-emitter voltage	V_{GES}	± 20	V
Collector current	I_C	40	A
Collector current@ $T_C=100$		20	A
Collector peak current, T_P limited by T_{JMAX}	I_{CM}	60	A
Diode forward current@ $T_C=100$	I_F	20	A
Diode maximum forward current	I_{FM}	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

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Collector-emitter breakdown voltage	V_{CES}	$V_{GE}=0V$	$I_{CE}=250\mu A$	1200	-	-	V
Zero gate voltage Collector current	I_{CES}	$V_{GE}=0V$	$V_{CE}=1200V$	-	-	1	mA
Gate-body leakage current	I_{GES}	$V_{GE}=\pm 20V$	$V_{CE}=0V$	-	-	± 250	nA
Gate threshold voltage	$V_{GE(th)}$	$I_C=15mA$	$V_{CE}=V_{GE}$	3.5	-	7.5	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=20A$	$V_{GE}=V_{CE}$				

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(ON)}$	$V_{CC}=600V \quad I_C$				

BRG20N120D

/ Marking Instructions



” X

EU:

⌘ 3 1 Γ

J53Q453G X

⌘ F β 3 N

---- X

⌘ 1 F ḡ N Γ 1 1 F ḡ N Ψ ρ

Note:

BR:

Company Code.

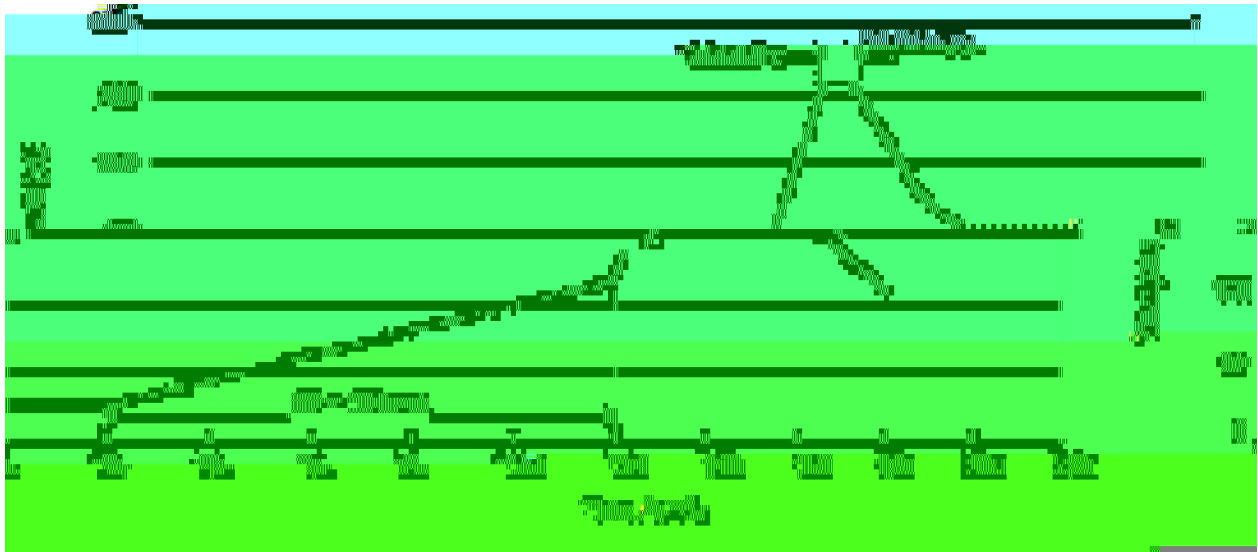
G20N120D:

Product Type.

****:

Lot No. Code, code change with Lot No.

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



1. Preheating: 25~150 °C, Time: 60~90sec;
2. Peak Temp.: 255 °C, Duration: 5~0.5sec;
3. Cooling Speed: 2~10 °C/sec.

- Note:
1. Preheating: 25~150 °C, Time: 60~90sec.
2. Peak Temp.: 255 °C, Duration: 5~0.5sec.
3. Cooling Speed: 2~10 °C/sec.

/ Resistance to Soldering Heat Test Conditions

□ °C 270 ± 5 °C, Time: 10 ± 1 sec. Temp.: 270 ± 5 °C Time: 10 ± 1 sec

/ Packaging SPEC.

1 / TUBE

Package Type	Units					Dimension (unit mm ³)		
	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