

BRGH25N120D

Rev.A May.-2019



DATA SHEET

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Insulated-Gate Bipolar Transistor in a TO-247 Plastic Package.

I f ? J

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

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



PIN1 Gate PIN 2 Collector PIN 3 Emitter

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Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CES}	1200	V
Gate-emitter voltage	V_{GES}	± 20	V
Collector current	I_C	50	A
Collector current@ $T_C=100$		25	A
Collector peak current, T_P limited by T_{JMAX}	I_{CM}		

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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(ON)}$	$V_{CE}=600V$ $I_C=25A$ $R_G=10$ Inductive Load	-	90	-	ns
Rise time	t_r		-	75	-	
Turn-off delay time	$t_{d(OFF)}$		-	210	-	
Fall time	t_f		-	100	-	
Turn-On Switching Loss	E_{on}		-	2.8	-	

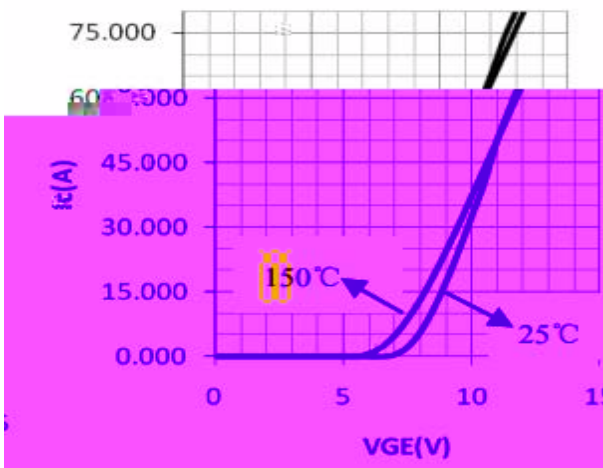
mJ Turn-On Swit

/ Electrical Characteristic Curve

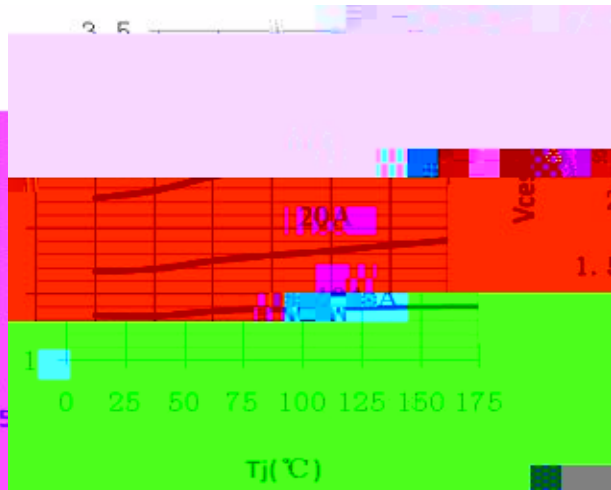


1. Typical Output Characteristics ($T_j=25^\circ\text{C}$)

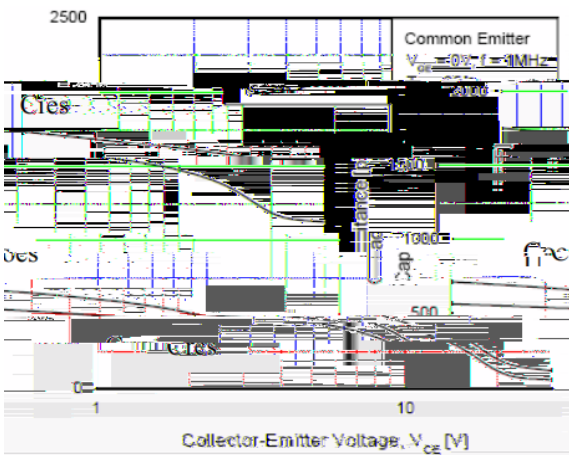
2. Typical Output Characteristics ($T_j=150^\circ\text{C}$)



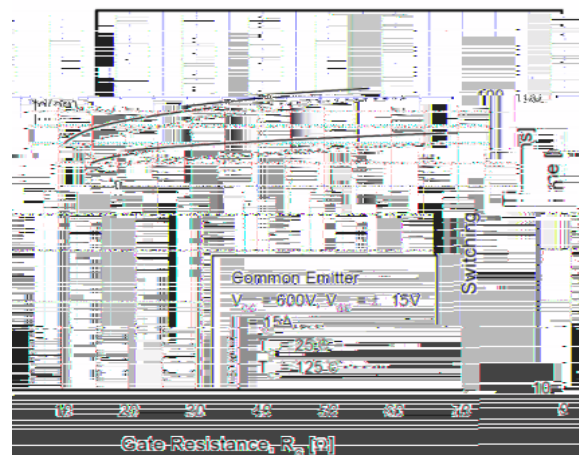
3. Typical Saturation Voltage Characteristics



4. Saturation Voltage vs. Case Temperature at Variant Current Level

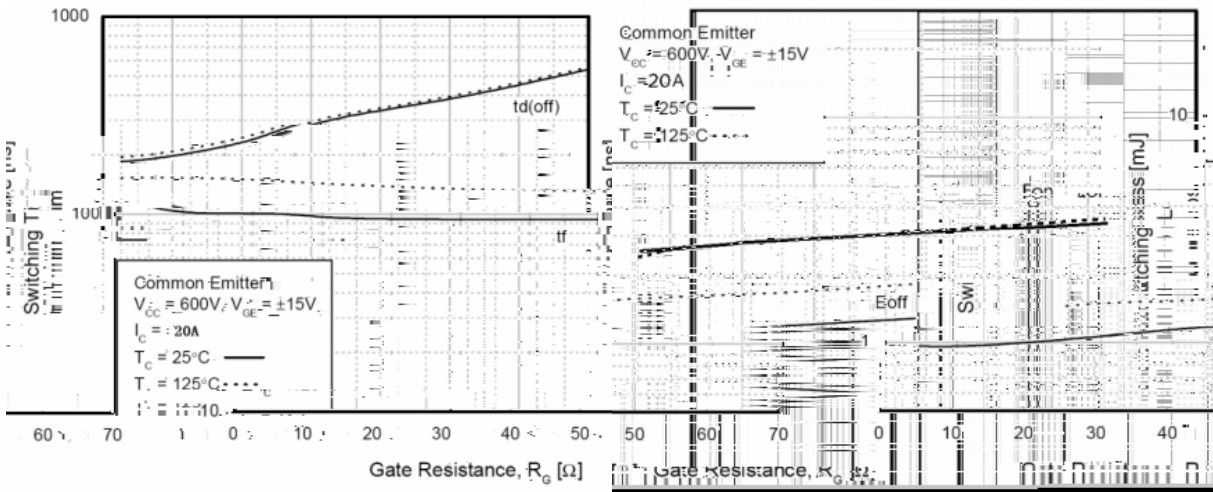


5. Capacitance Characteristics



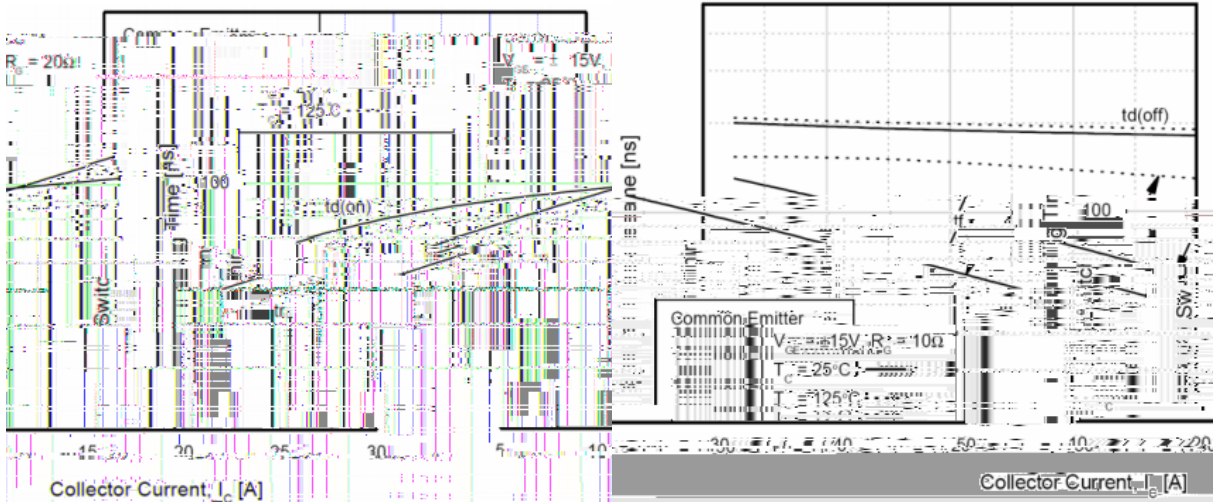
6. Switching Characteristics vs. Gate Resistance

/ Electrical Characteristic Curve



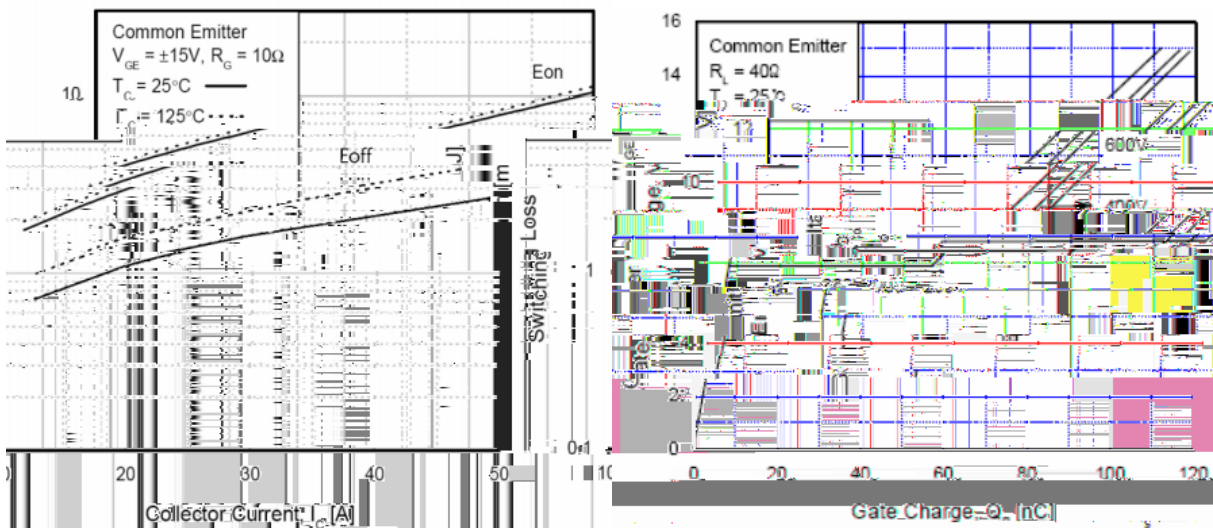
7. Turn-Off Characteristics vs. Gate Resistance

8. Switching Loss vs. Gate Resistance



9. Turn-On Characteristics vs. Collector Current

10. Turn-Off Characteristics vs. Collector Current



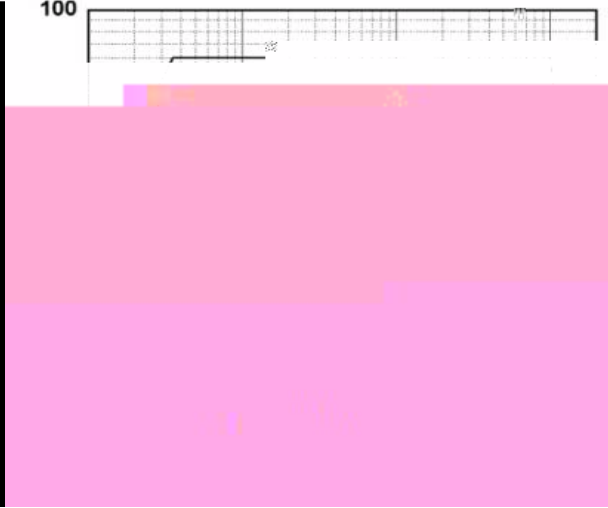
11. Switching Loss vs. Collector Current

12. Gate Charge Characteristics

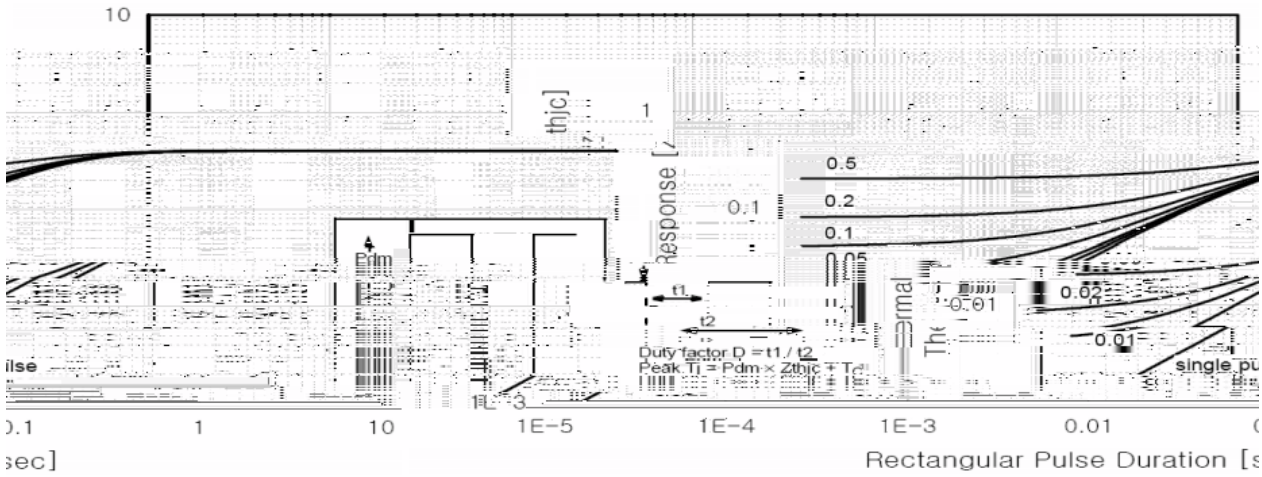
/ Electrical Characteristic Curve



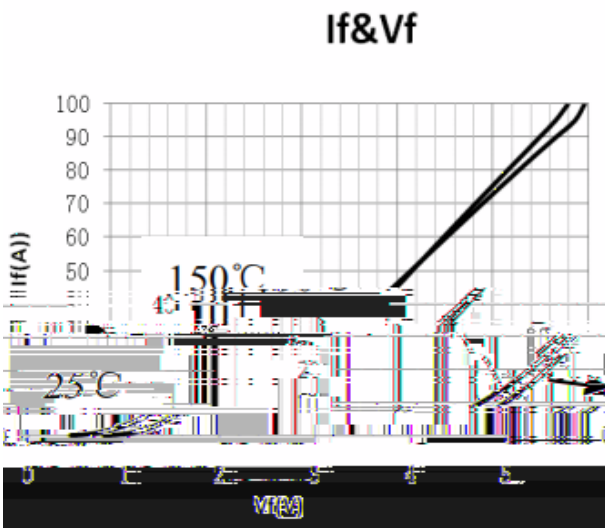
13.SOA Characteristics



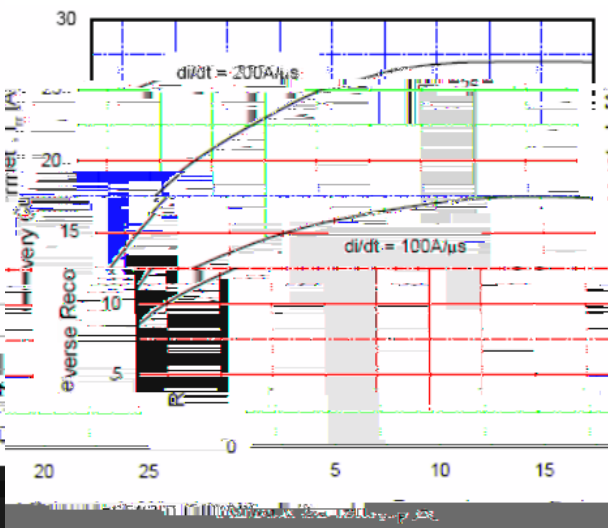
14.Turn-Off SOA



15.Transient Thermal Impedance

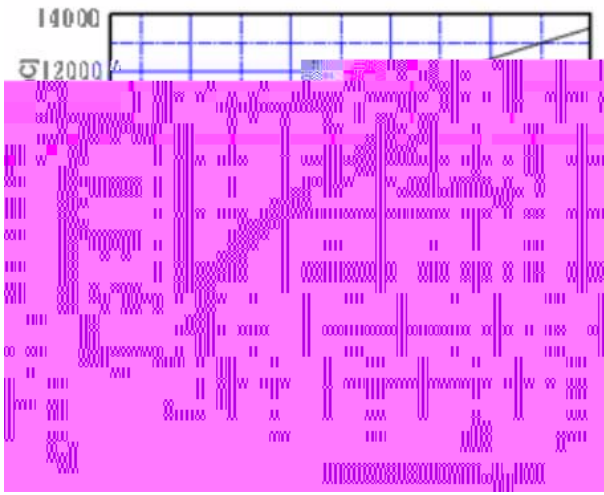


16.Forward Characteristics

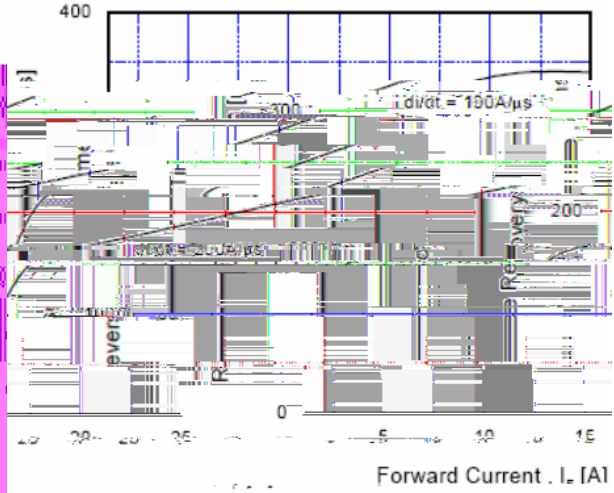


17.Reverse Recovery Current

/ Electrical Characteristic Curve

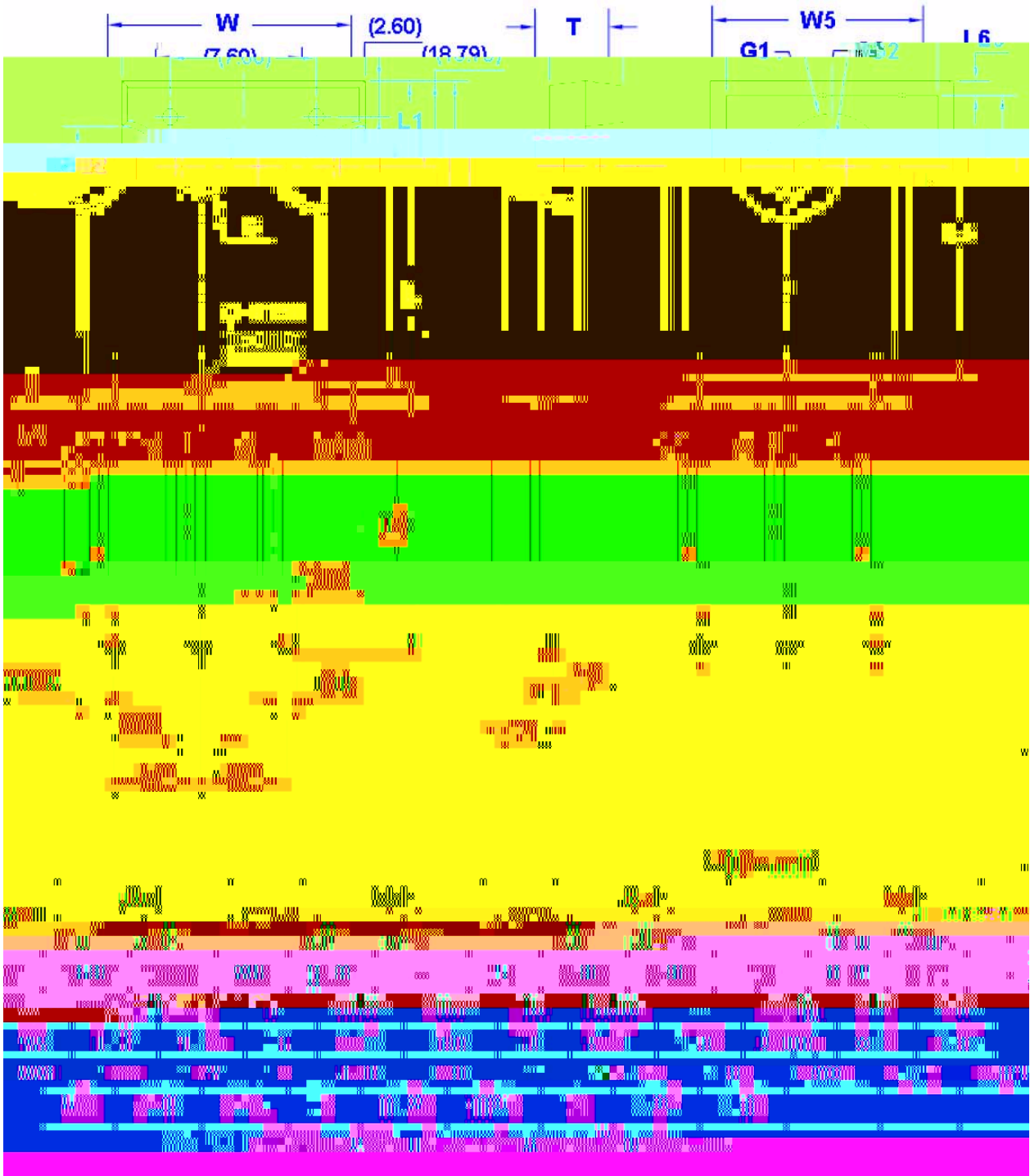


18.Stored Charge

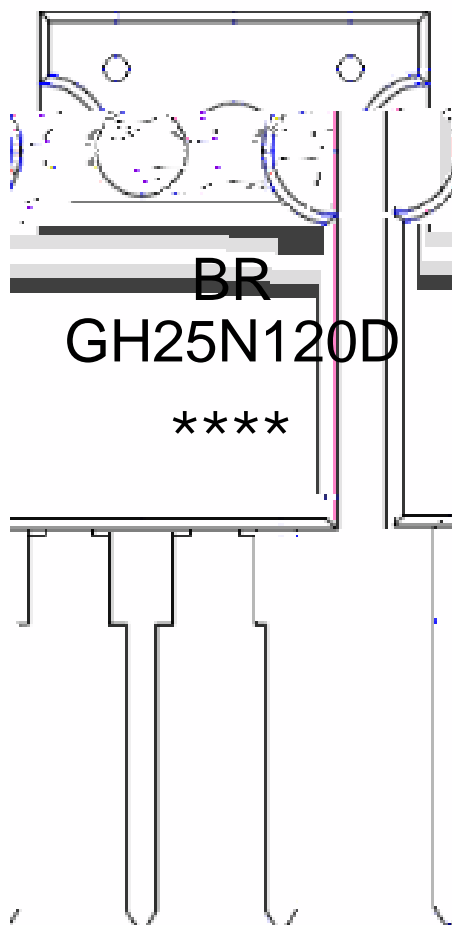


19.Reverse Recovery Time

/ Package Dimensions



/ Marking Instructions



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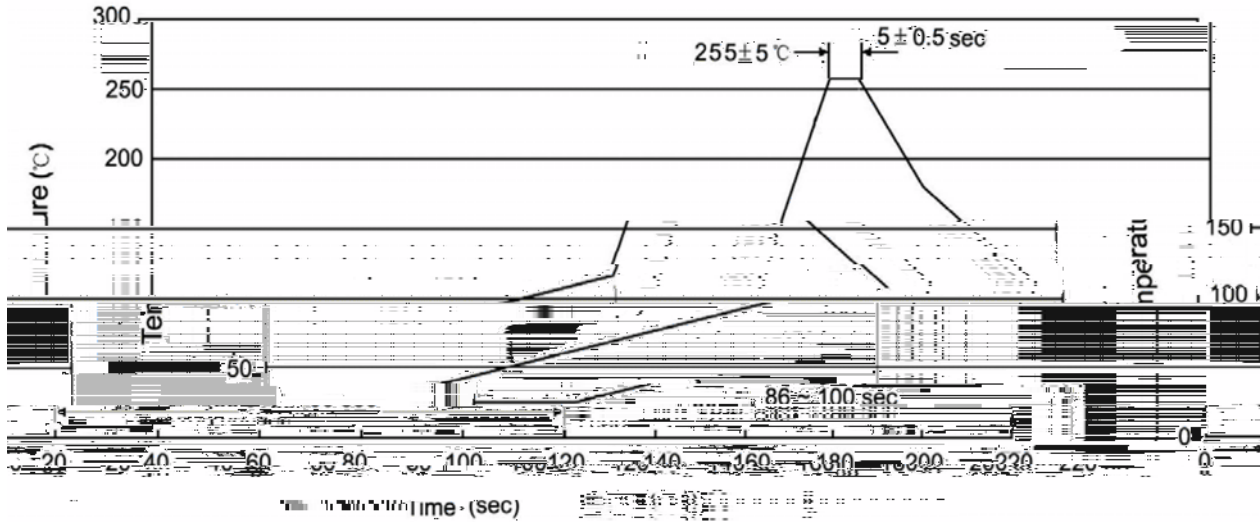
Note:

BR: Company Code.

G25N120D: Product Type.

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

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



Note:

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

/ Resistance to Soldering Heat Test Conditions

270..5 10..1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ TUBE

Package Type	Units					Dimension		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box