

/ Descriptions

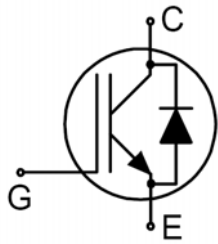
Insulated-Gate Bipolar Transistor in a TO-247 Plastic Package.

/ Features

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 Gate PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

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@ $T_C=100^\circ\text{C}$		25	A
Collector peak current, T_P limited by T_{JMAX}	I_{CM}	60	A
Diode forward current@ $T_C=100^\circ\text{C}$	I_F	25	A
Diode maximum forward current	I_{FM}	75	A
Power dissipation($T_C=25^\circ\text{C}$)	P_D	350	W
Operating junction and storage temperature range	T_J, T_{stg}	$-55 \sim 150$	
Maximum temperature for soldering	T_L	300	
IGBT thermal resistance,junction-case	$R_{th(j-c)}$	0.4	/W
Diode thermal resistance,junction-case	$R_{th(j-C)}$	2	/W
Thermal resistance,junction-ambient	$R_{th(j-a)}$	40	/W

BRGH25N120D

Rev.A May.-2019

DATA SHEET

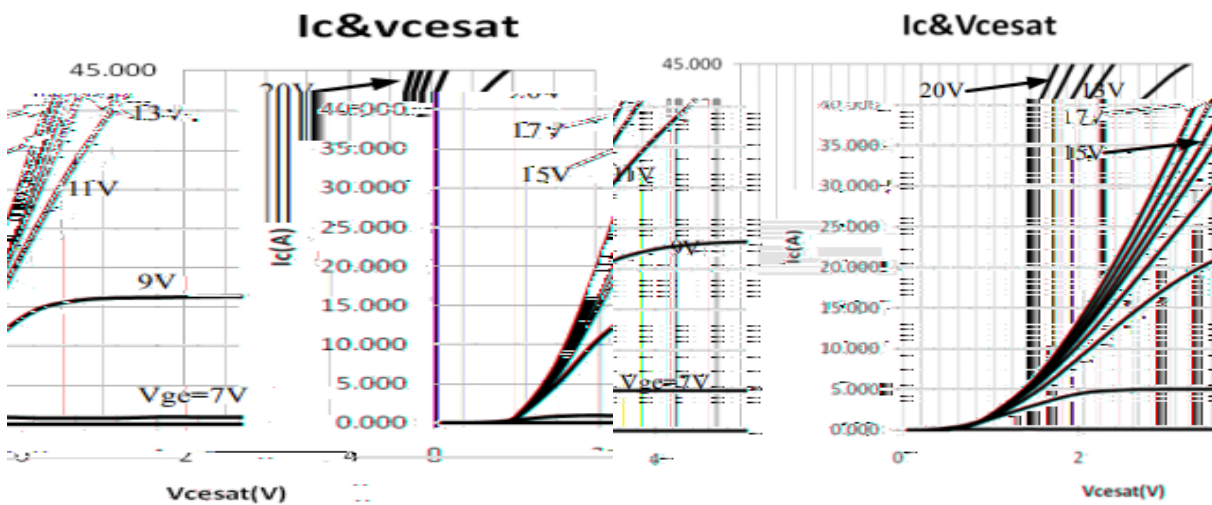
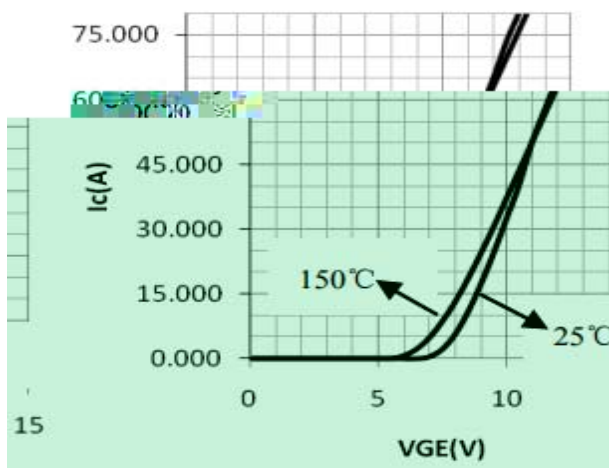
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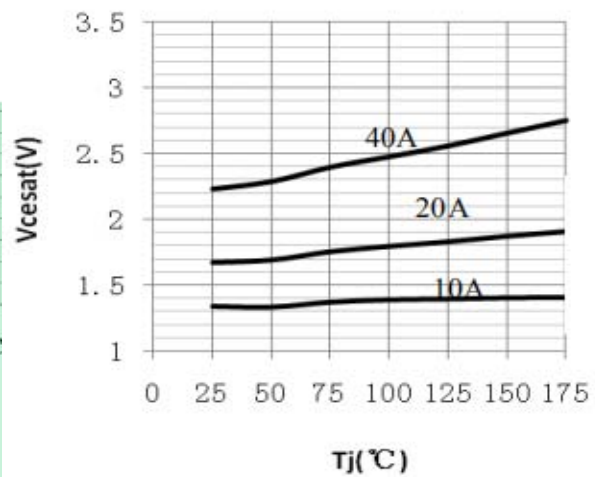
**DATA SHEET**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(ON)}$	$V_{CE}=600V$ $I_C=25A$ $R_G=10\Omega$ 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

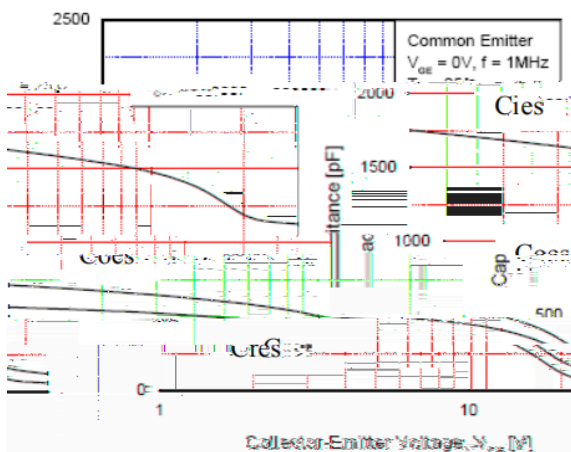
/ Electrical Characteristic Curve

1. Typical Output Characteristics ($T_j = 25^\circ\text{C}$)2. Typical Output Characteristics ($T_j = 150^\circ\text{C}$)

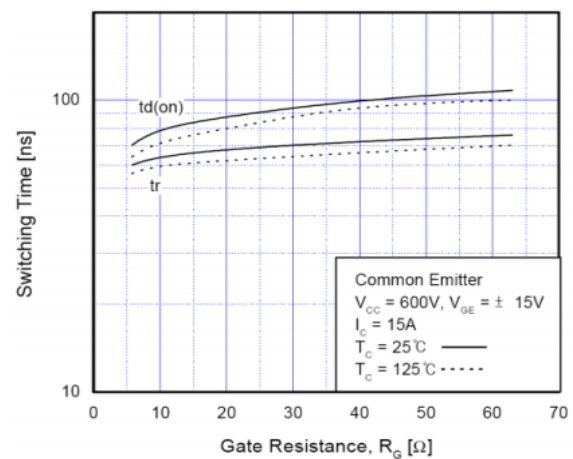
3. Typical Saturation Voltage Characteristics



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

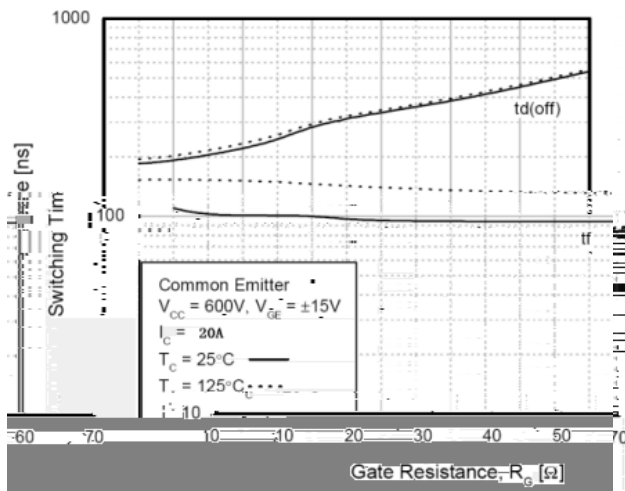


5. Capacitance Characteristics

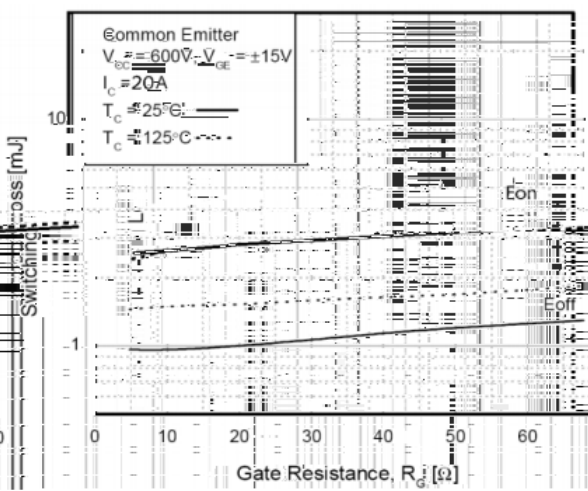


6. Turn-On Characteristics vs. Gate Resistance

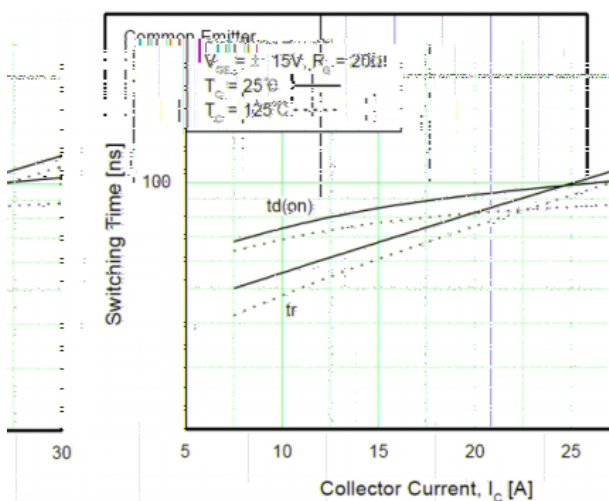
/ Electrical Characteristic Curve



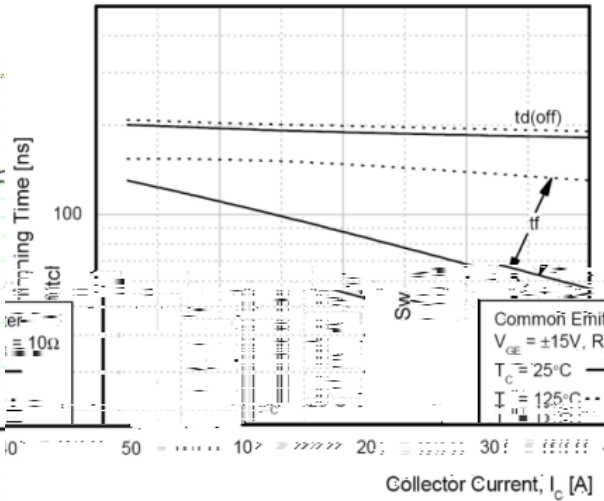
7. Turn-Off Characteristics vs. Gate Resistance



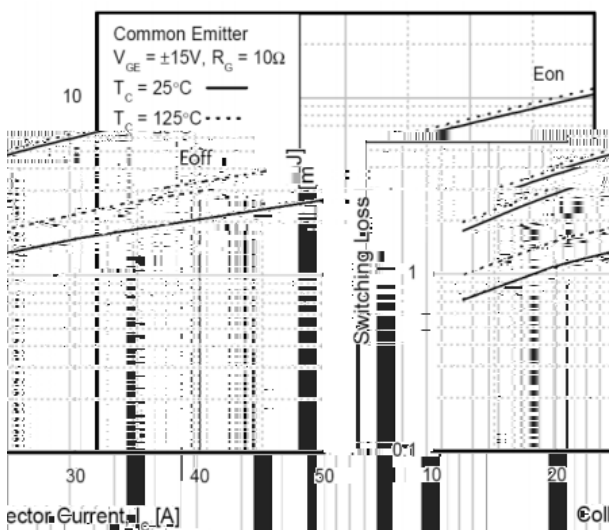
8. Switching Loss vs. Gate Resistance



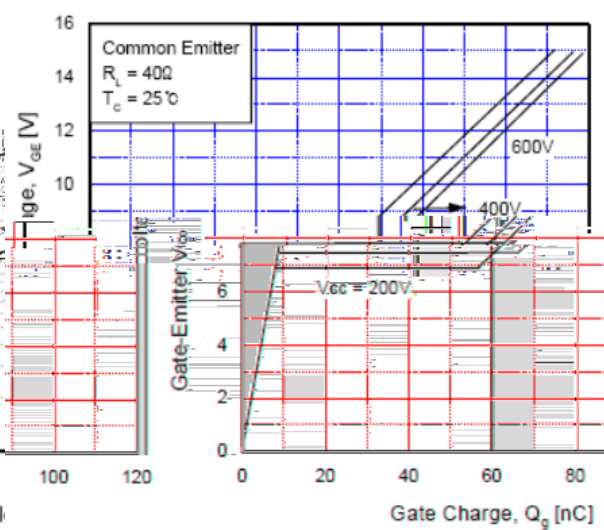
9. Turn-On Characteristics vs. Collector Current



10. Turn-Off Characteristics vs. Collector Current

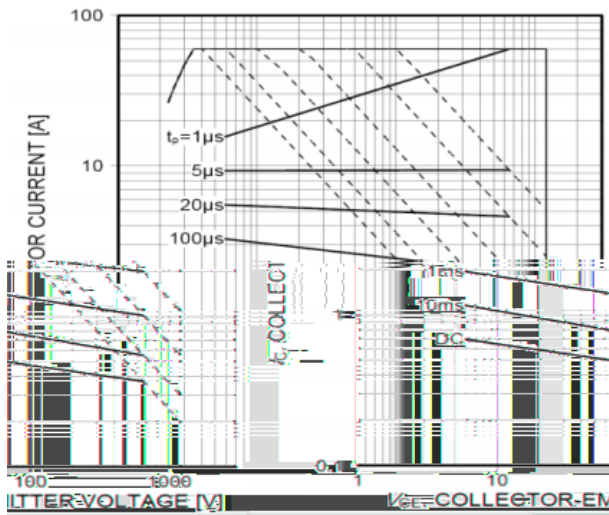


11. Switching Loss vs. Collector Current

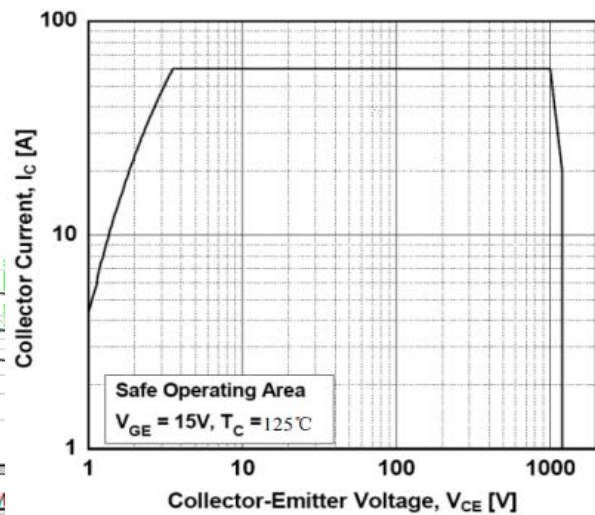


12. Gate Charge Characteristics

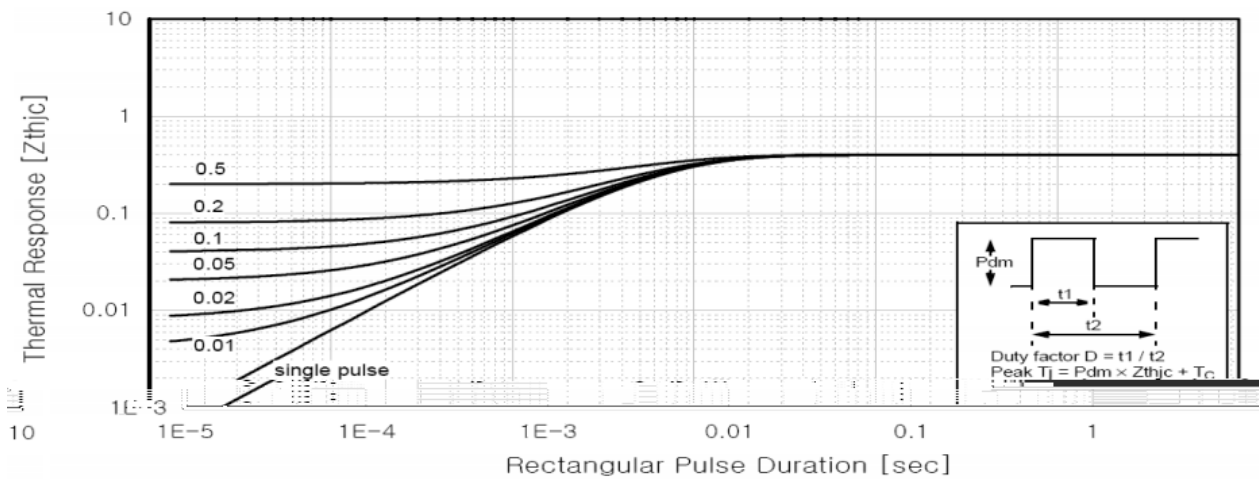
/ Electrical Characteristic Curve



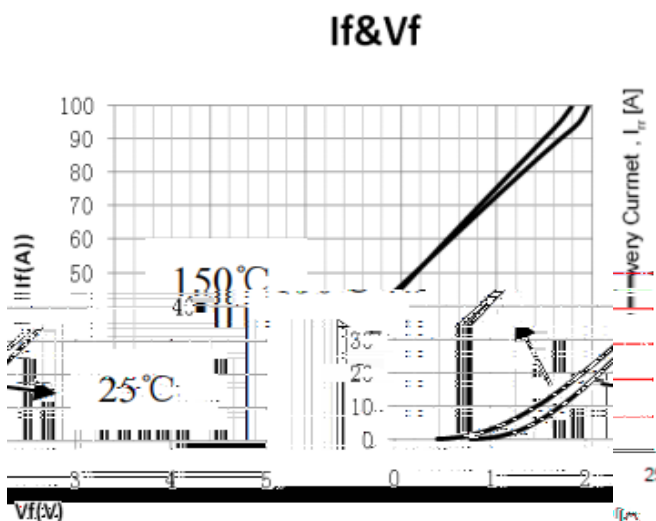
13.SOA Characteristics



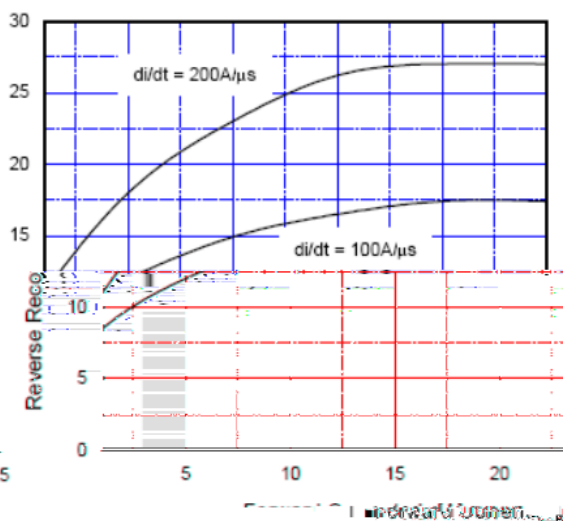
14.Turn-Off SOA



15.Transient Thermal Impedance

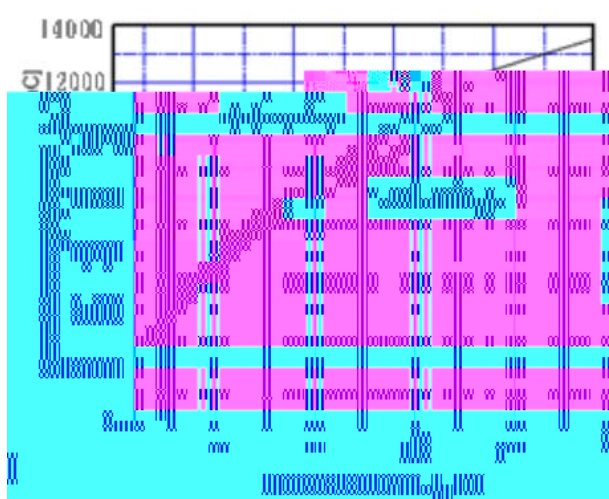


16.Forward Characteristics

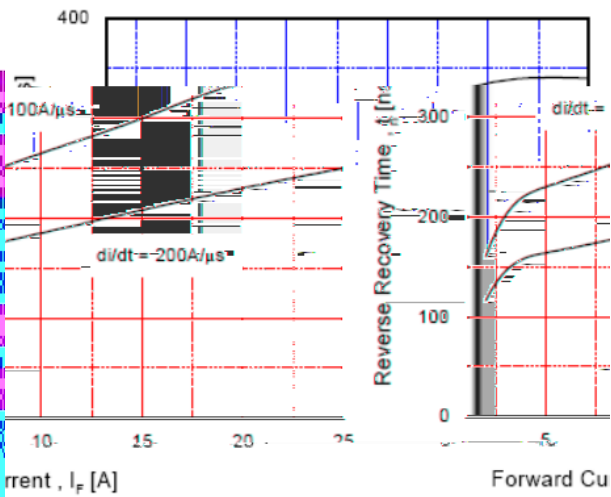


17.Reverse Recovery Current

/ Electrical Characteristic Curve

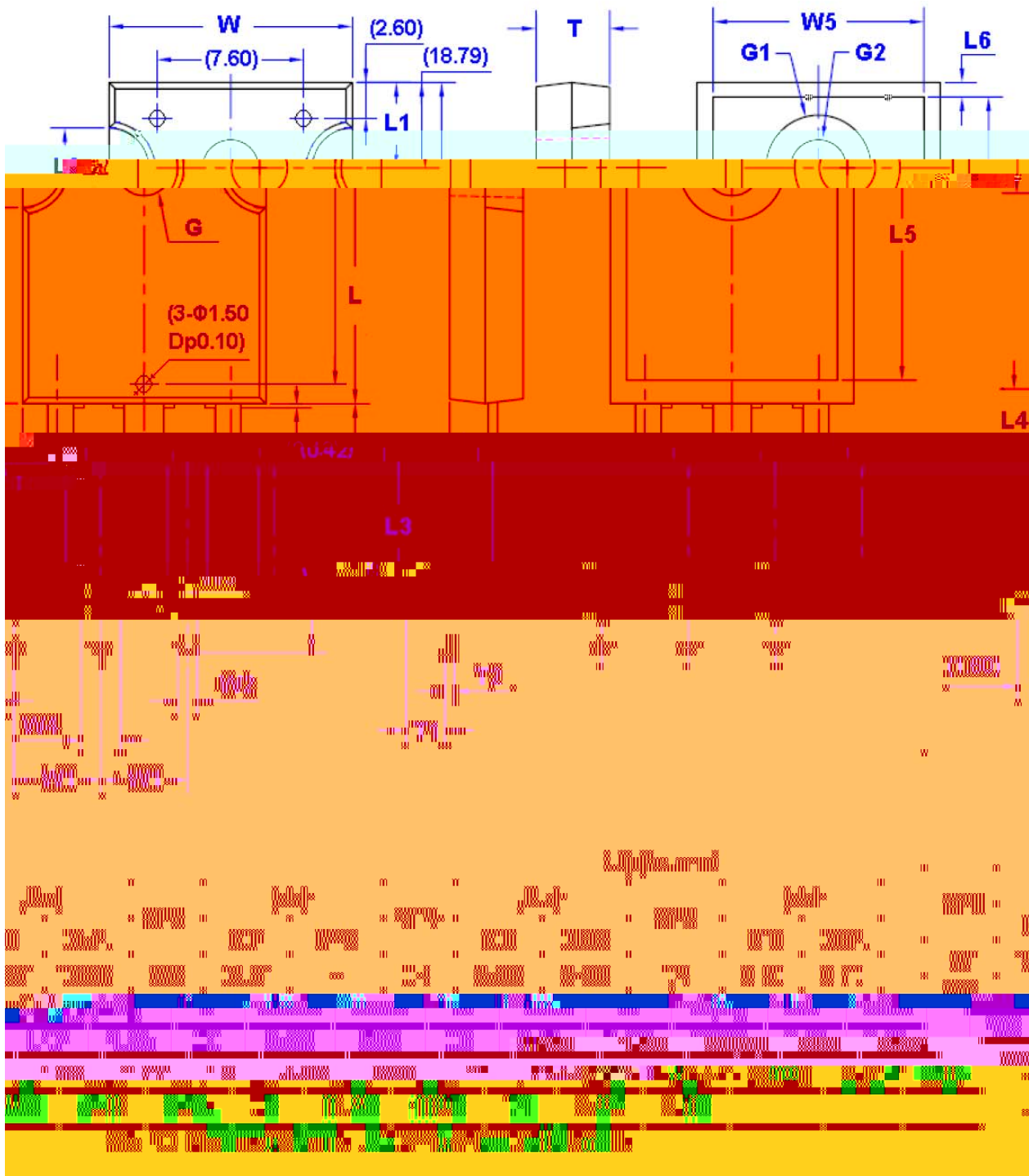


18.Stored Charge

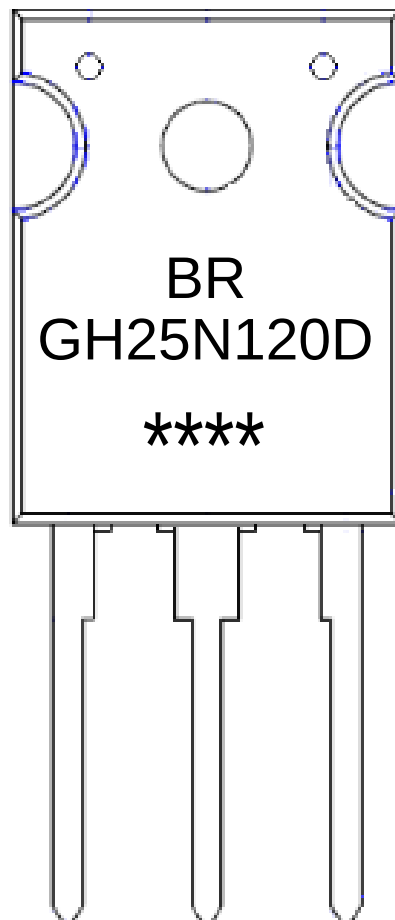


19.Reverse Recovery Time

/ Package Dimensions



/ Marking Instructions



Note:

BR:

Company Code.

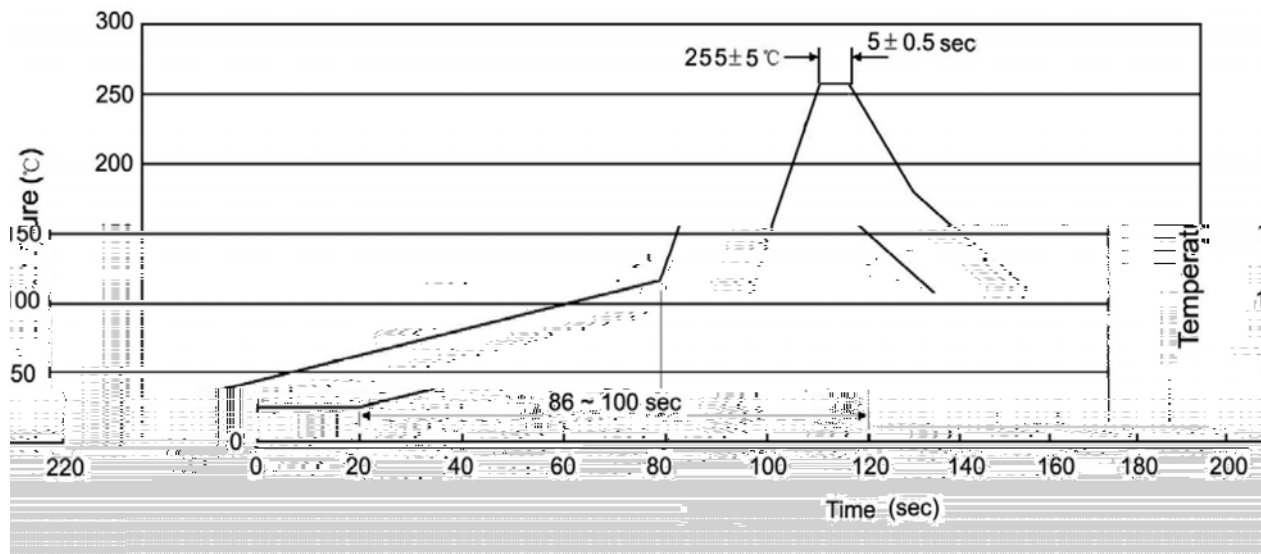
G25N120D:

Product Type.

****:

Lot No. Code, code change with Lot No.

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



Note:

- 1

25 150

60 90sec;
- 2

255 5

5 0.5sec;
- 3

2 10

/sec.
- 1.Preheating:25~150

, Time:60~90sec.
- 2.Peak Temp.:255 5

, Duration:5 0.5sec.
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