

Rev.D Oct.-2015

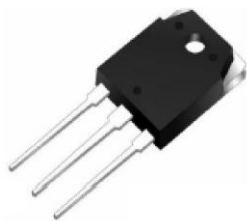
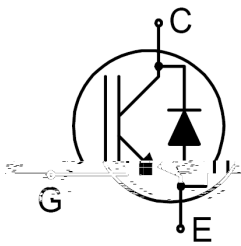
WR-6S

Insulated-Gate Bipolar Transistor in a TO-3P Plastic Package.

H_f H_i U_{0KV}

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

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



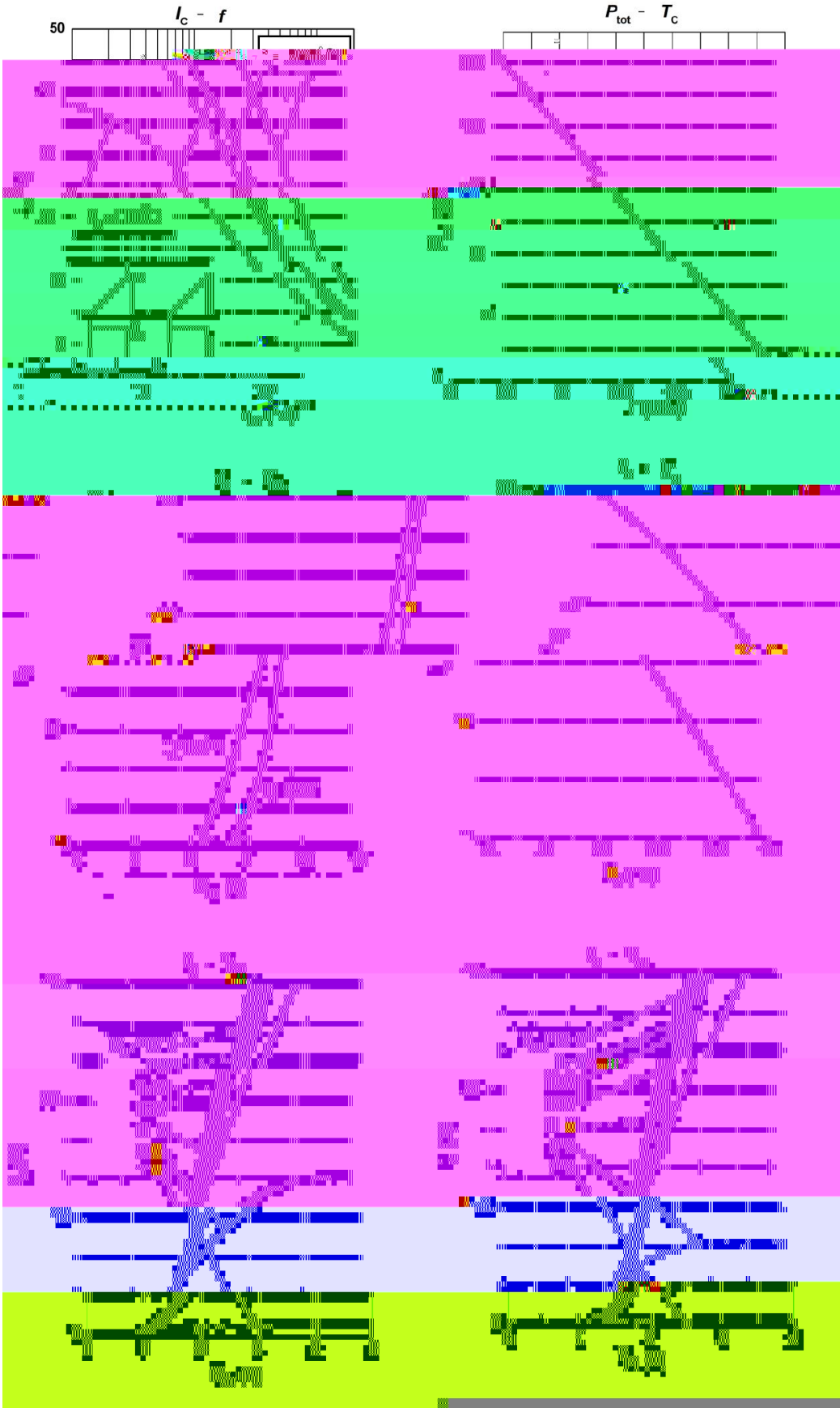
PIN1 Gate PIN 2 Collector PIN 3 Emitter

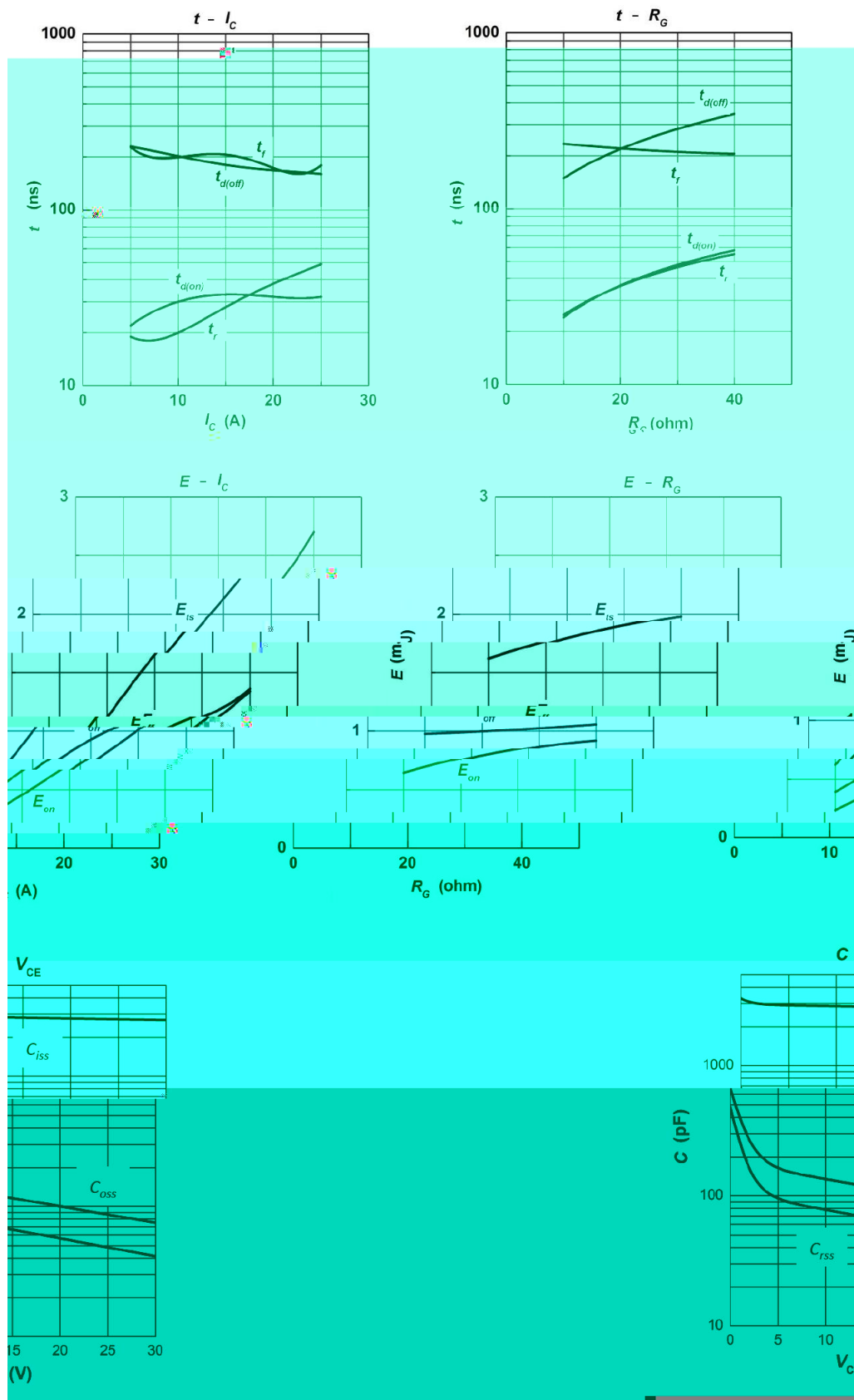
See Marking Instructions.

Parameter	N Symbol	Rating	H Unit
Collector-emitter voltage	V_{CES}	1200	V
Gate-emitter voltage	V_{GES}	± 20	V
Collector current	I_C	30	A
Collector current@ $T_C=100^\circ\text{C}$		15	A
Collector peak current, T_P limited by T_{JMAX}	I_{CM}	45	A
Diode forward current@ $T_C=100^\circ\text{C}$	I_F	15	A
Diode maximum forward current	I_{FM}	45	A
Power dissipation($T_C=25^\circ\text{C}$)	P_D	186	W
Power dissipation($T_C=100^\circ\text{C}$)		74	W
Operating junction and storage temperature range	T_J, T_{stg}	$-55 \sim 150$	$^\circ\text{C}$
Maximum temperature for soldering	T_L	300	$^\circ\text{C}$
IGBT thermal resistance,junction-case	$R_{th(j-c)}$	0.67	$^\circ\text{C/W}$
Diode thermal resistance,junction-case	$R_{th(j-C)}$	2.88	$^\circ\text{C/W}$
Thermal resistance,junction-ambient	$R_{th(j-a)}$	40	$^\circ\text{C/W}$

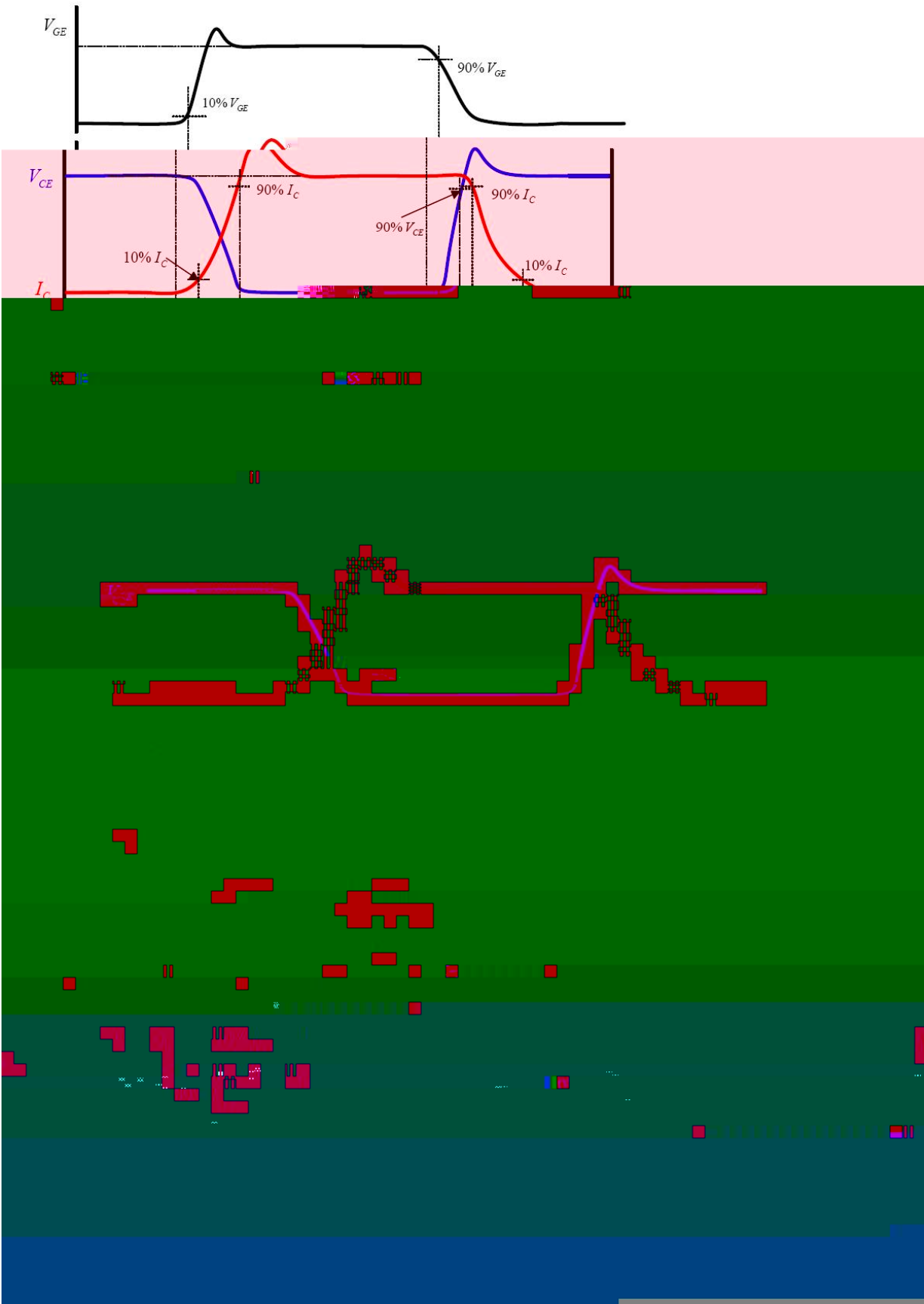
Parameter	N Symbol	Test Conditions	Min	Typ	Max	H Unit
Collector-emitter breakdown voltage	V_{CES}	$V_{GE}=0V; I_{CE}=250\mu A$	1200	-	-	V
Zero gate voltage Collector current	I_{CES}	$V_{GE}=0V; V_{CE}=1200V$	-	-	1	mA
Gate-body leakage current	I_{GES}	$V_{GE}=\pm 20V; V_{CE}=0V$	-	-	± 250	nA
Gate threshold voltage	$V_{GE(th)}$	$I_C=15mA; V_{CE}=V_{GE}$	5.0	6.4	7.0	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=15A; V_{GE}=15V$	-	2	2.5	V
Input capacitance	C_{ies}	$V_{CE}=30V, V_{GE}=0V, f=1MHz$	-	2620	-	pF
Output capacitance	C_{oes}		-	67	-	
Reverse transfer capacitance	C_{res}		-	43	-	

Parameter	N Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(ON)}$	$V_{CE}=600V$ $I_C=15A$ $R_G=15\Omega$ $V_{GE}=15/0V$ Inductive Load	-	25	-	ns
Rise time	t_r		-	48	-	
Turn-off delay time	$t_{d(OFF)}$		-	155	-	
Fall time	t_f		-	115	-	
Turn-On Switching Loss	E_{on}		-	0.67	-	mJ
Turn-Off Switching Loss	E_{off}		-	0.45	-	
Total Switching Loss	E_{ts}		-	1.12	-	
Total gate charge	Q_G	$V_{CE}=600V$ $I_C=15A$ $V_{GE}=15V$	-	130	180	nC
Gate-emitter charge	Q_{G-E}		-	15	22	
Gate-collector charge	Q_{G-C}		-	50	65	
Diode forward voltage	V_F	$I_F=15A$	-	1.2	2.0	V
Reverse recovery time	T_{rr}	$I_F=15A$ $di/dt=200A/\mu S$	-	330	360	ns
Diode Peak Reverse Recovery Current	I_{rr}		-	30	40	A
Reverse recovery charge	Q_{rr}		-	4770	6600	nC



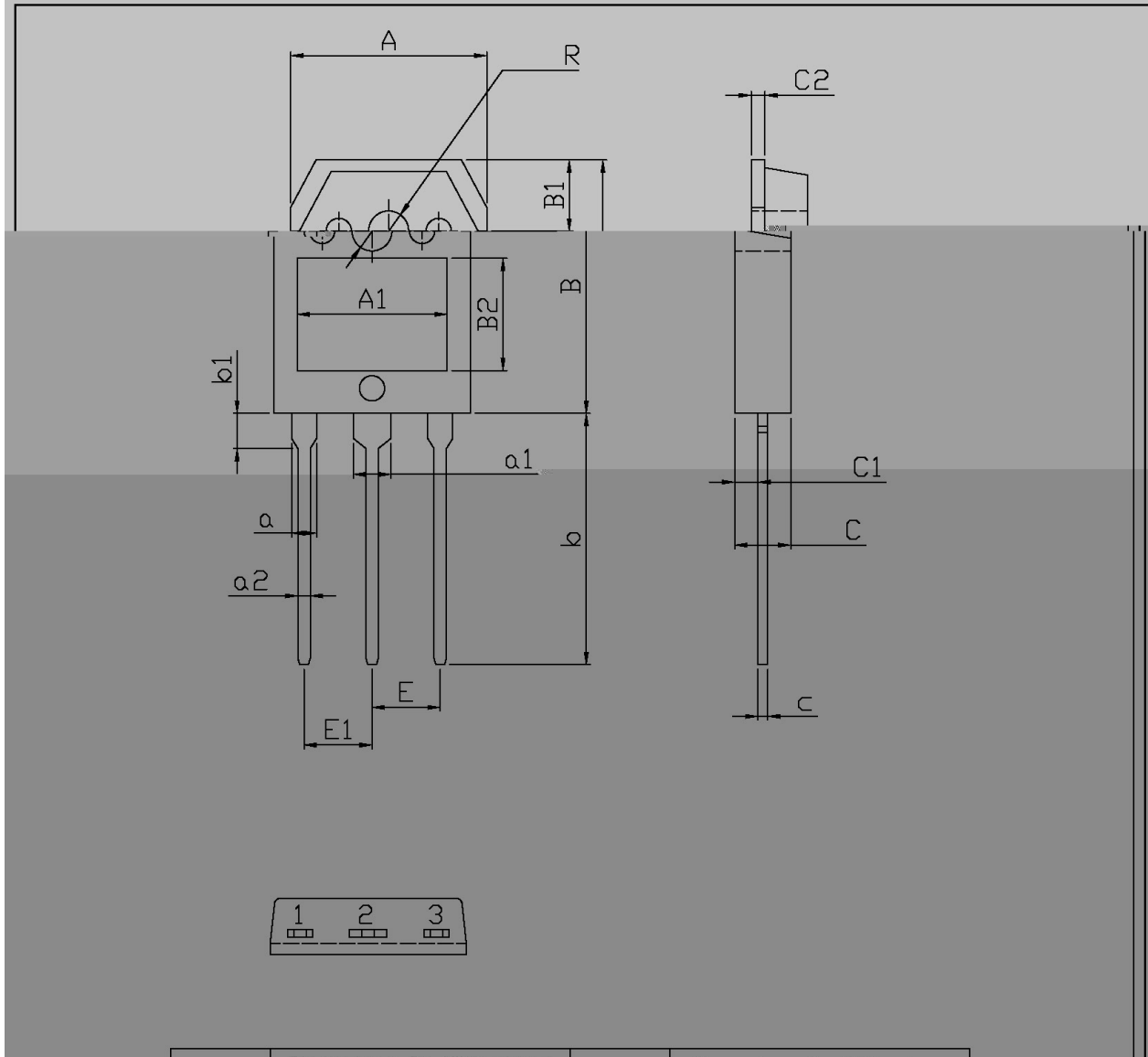


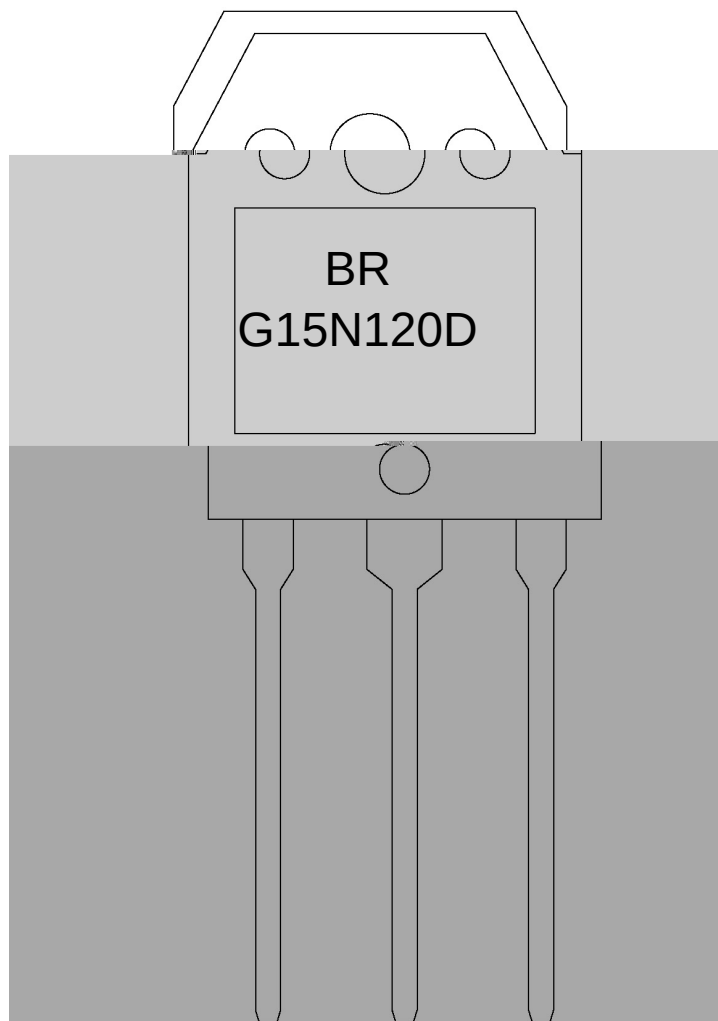
I



T□-3P

单位: mm

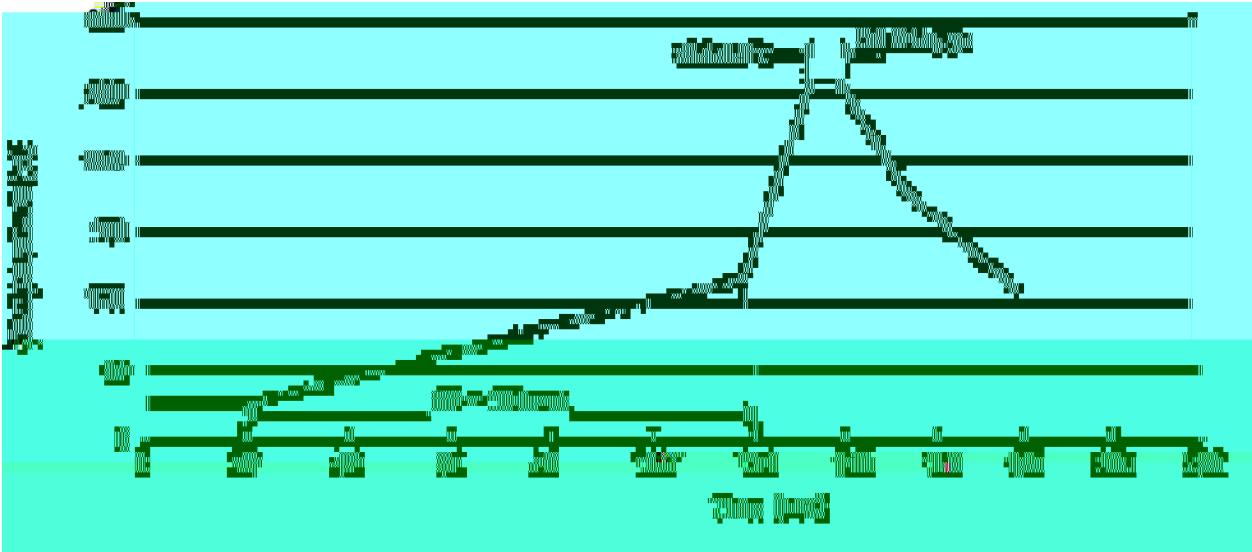




BU:	N	
J45Q453D	N	
****	N	N

Note:

BR:	Company Code.
G15N120D:	Product Type.
****:	Lot No. Code, code change with Lot No.



- 1

25 150

60 90sec;

2

255±5

5±0.5sec;

3

2 10

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

270±5

10±1 sec.

Temp.:270±5℃

Time:10±1 sec

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱