

/ Descriptions

TO-3P

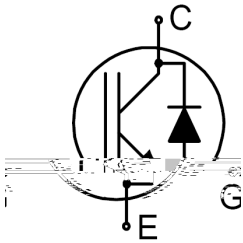
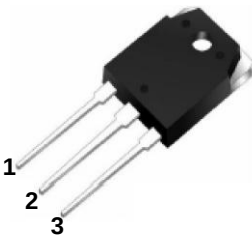
Insulated-Gate Bipolar Transistor in a TO-3P Plastic Package.

/ Features

Built in fast recovery diode, High reliability and thermal stability parameters, Low switching loss, Low saturation voltage.

/ Applications

Eddy-current heating.

/ Equivalent Circuit**/ Pinning**

PIN1 Gate

PIN 2 Collector

PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CES}	1200	V
Gate-emitter voltage	V_{GES}	± 20	V
Collector current@ $T_C=25^\circ\text{C}$	I_C	20	A
Collector current@ $T_C=100^\circ\text{C}$		10	A
Collector peak current, T_P limited by T_{JMAX}	I_{CM}	30^2	A
Diode forward current	I_F	30^3	A
Diode forward current@ $T_C=100^\circ\text{C}$		15	A
Diode maximum forward current	I_{FM}	45^2	A
Power dissipation($T_C=25^\circ\text{C}$)	P_D	208	W
Power dissipation($T_C=100^\circ\text{C}$)		83	W
Operating junction and storage temperature range	T_J, T_{stg}	$-55 \sim 150$	$^\circ\text{C}$
IGBT thermal resistance,junction-case	$R_{th(j-c)}$	0.6	$^\circ\text{C/W}$
Diode thermal resistance,junction-case	$R_{th(j-CD)}$	2.0	$^\circ\text{C/W}$
Thermal resistance,junction-ambient	$R_{th(j-a)}$	40	$^\circ\text{C/W}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	V_{CES}	$V_{GE}=0V$ $I_C=0.5\mu A$	1200	-	-	V
Zero gate voltage Collector current	I_{CES}	$V_{GE}=0V$ $V_{CE}=1200V$	-	-	0.1	mA
Gate-body leakage current	I_{GBS}	$V_{GE}=20V$ $V_{CE}=0V$	-	-	100	nA

Gate threshold voltage V_{GE}

BRG10N120D

Rev.D Oct.-2015

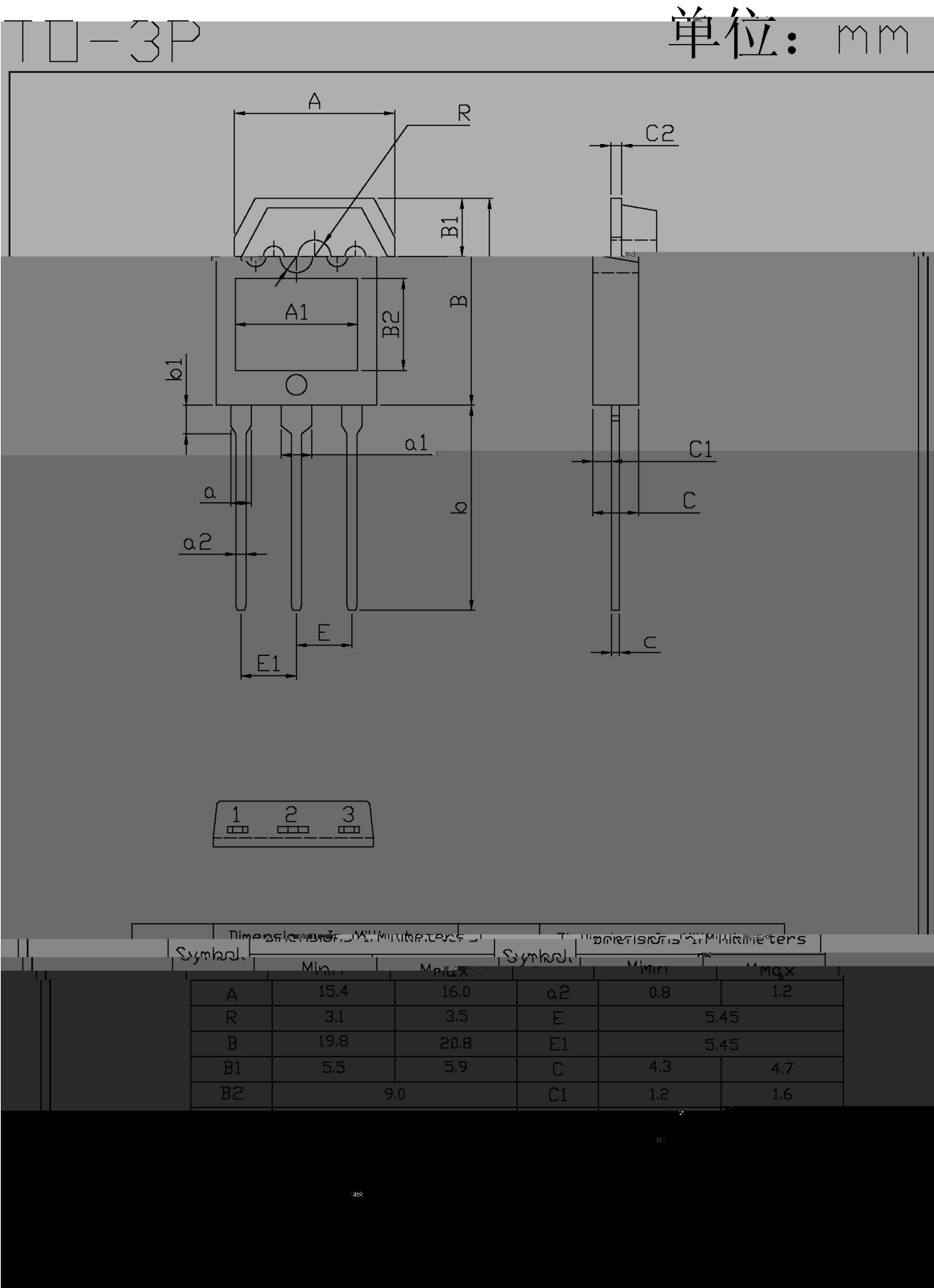


DATA SHEET

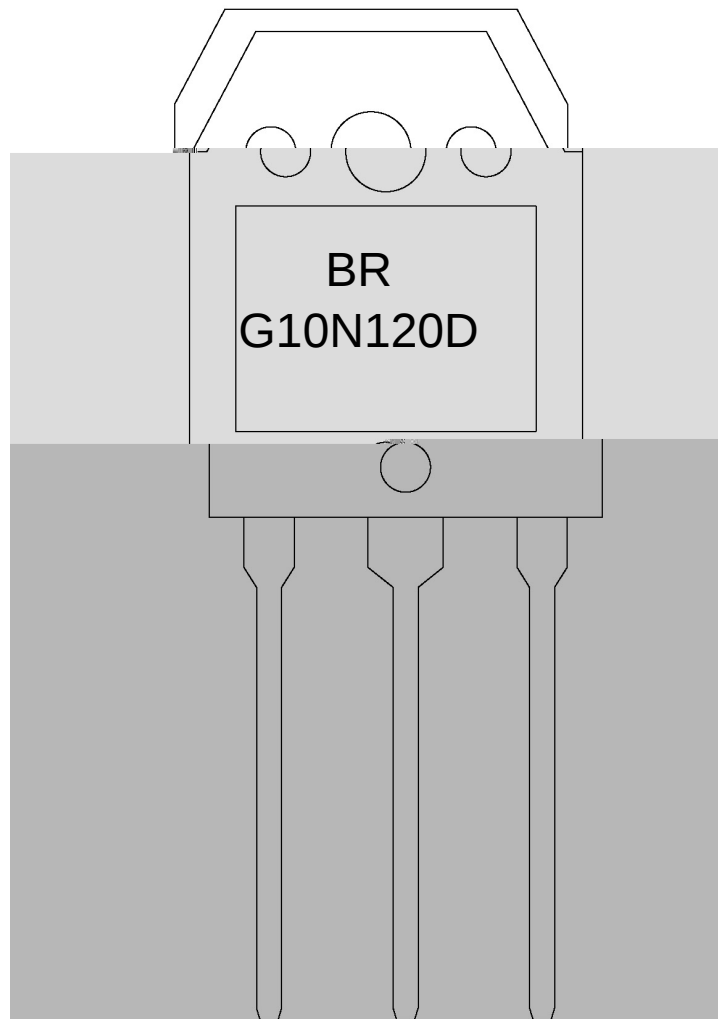
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(ON)}$		-	22	-	
Rise time	t_r		-	24	-	ns

$V_{CC}=600V$ $I_C=10A$
 $R_G=15\Omega$ $V_{GE}=15V$

/ Package Dimensions



/ Marking Instructions



BR:

G10N120D

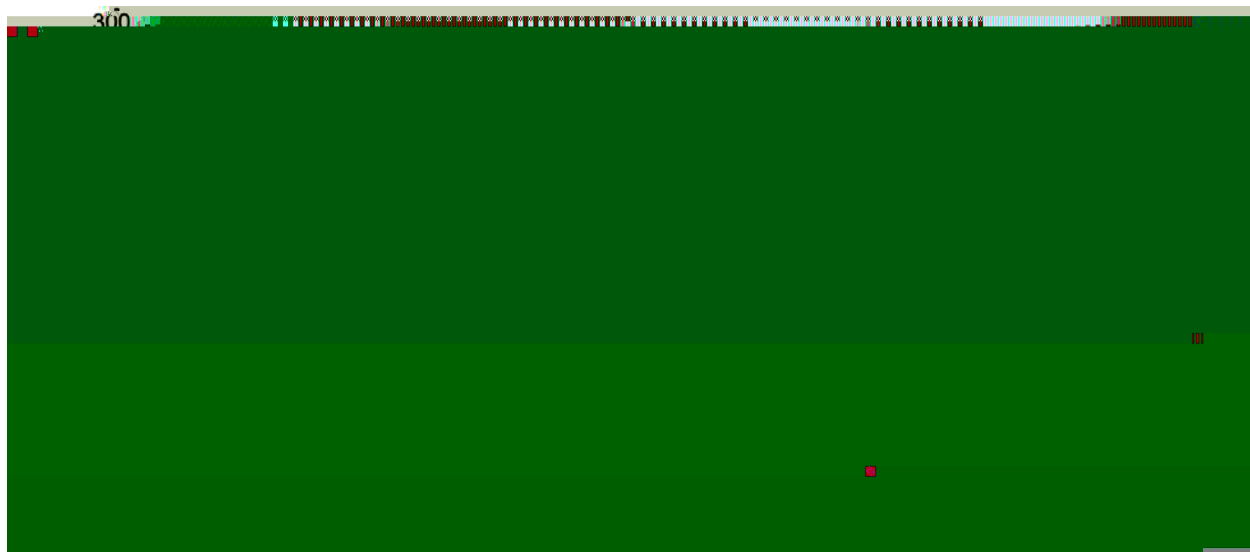
Note:

BR: Company Code.

G10N120D: 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 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
								x x

/ Notices