

# BT152-600R/800R

## ●Product features

Silicon unilateral device NPNP four layer structure,

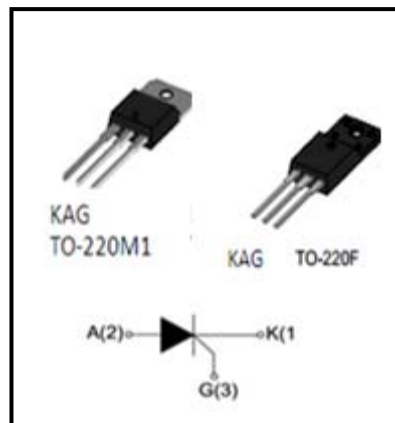
P<sup>+</sup> on the through diffusion isolation,

Single mesa structure (Single Mesa),

Table glass passivation process,

The back (anode) electrode metal: Ti-Ni-Ag

The high ability of current shock resistance



## ●The main purposes

Alternating current switch,

AC DC power converter,

The control of electric heating

Motor speed control

## ● Package

TO-220M1 TO-220F

## ●Main Feature (T<sub>j</sub>=25°C)

Symbol	Value	Unit
I <sub>T(RMS)</sub>	20	A
V <sub>DRM</sub> V <sub>RRM</sub>	600/800	V
I <sub>GT</sub>	≤200	uA

## ●Absolute ratings (Limiting Values)

Symbol	Parameter	Value	Unit
I <sub>T(RMS)</sub>	RMS on-state current (180° conduction angle)	20	A
I <sub>T(AV)</sub>	AV on-state current (180° conduction angle)	13	A
I <sub>TSM</sub>	Non repetitive surge peak on-state Current (tp=10ms)	200	A
I <sub>GM</sub>	Peak gate current(tp=20us)	4	A
P <sub>GM</sub>	Peak gate power	5	W
P <sub>G(AV)</sub>	Average gate power	1	W
T <sub>stg</sub>	Storage temperature	-40--+150	°C
T <sub>j</sub>	Operating junction temperature	-40--+125	

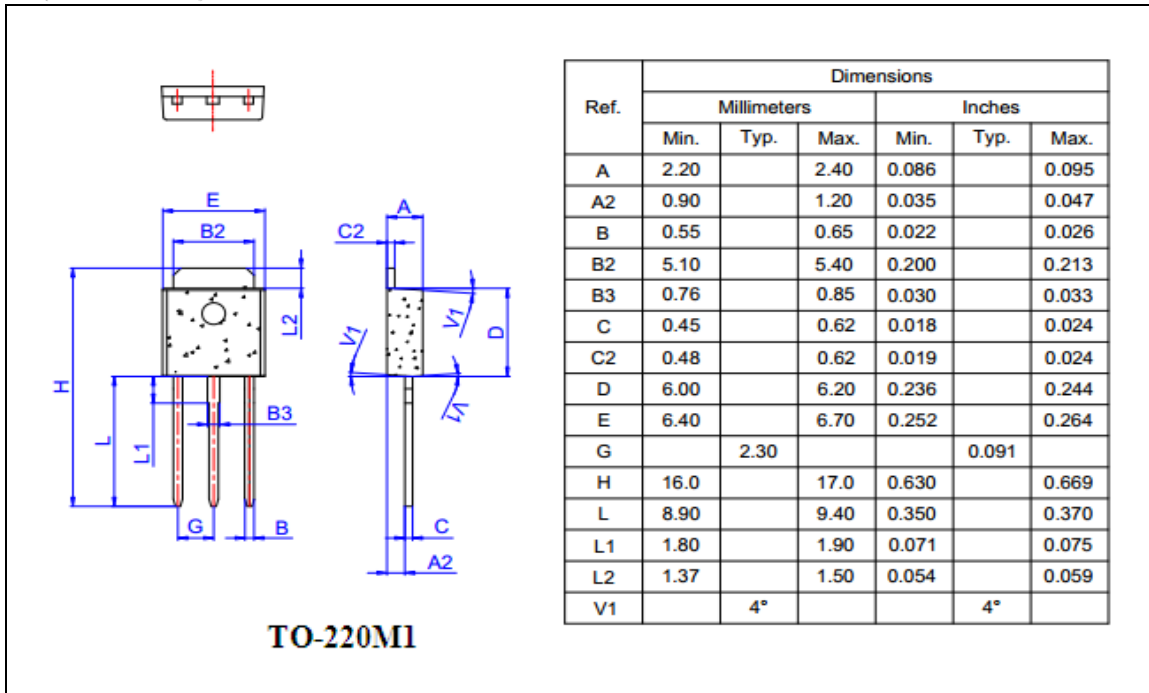
**●Thermai Resistances**

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case	TO-220M1	2.2	°C/W
		TO-220F	2.5	

**●Electrical characteristics (T<sub>j</sub>=25°C unless otherwise stated)**

Symbol	Test Conditions	Value			Unit	
		Min	Type	Max		
I <sub>GT</sub>	V <sub>D</sub> =12V, R <sub>L</sub> =33 Ω	----	5	25	mA	
V <sub>GT</sub>	V <sub>D</sub> =12V, R <sub>L</sub> =33 Ω	-----	-----	1.3	V	
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> , R <sub>L</sub> =3.3K Ω, R <sub>GK</sub> =1K Ω, T <sub>j</sub> =125°C	0.2	-----	-----	V	
I <sub>H</sub>	I <sub>T</sub> =500mA	-----	-----	30	mA	
I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	-----	-----	60	mA	
dV/dt	V <sub>D</sub> =67%V <sub>DRM</sub> , GateOpen, T <sub>j</sub> =110°C	500	-----	-----	v/ μ s	
V <sub>TM</sub>	I <sub>T</sub> =30A, tp=380 μ s	-----	-----	1.6	V	
di/dt	I <sub>G</sub> =2I <sub>GT</sub>	50	-----	-----	A/ μ s	
I <sup>2</sup> T	Tp=10ms	-----	-----	200	A <sup>2</sup> S	
I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub>	T <sub>j</sub> =25°C	-----	-----	10	μA
		T <sub>j</sub> =125°C	-----	-----	1	mA
I <sub>RRM</sub>	V <sub>R</sub> =V <sub>RRM</sub>	T <sub>j</sub> =25°C	-----	-----	10	μA
		T <sub>j</sub> =125°C	-----	-----	1	mA

● Measure of package  
(TO-220M1)



(TO-220F)

