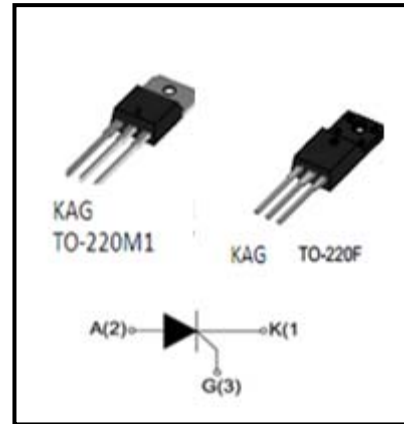


## BT152-800R

### ●Product features

Silicon unilateral device NPNP four layer structure,  
 $P^+$  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 ( $T_j=25^{\circ}\text{C}$ )

Symbol	Value	Unit
$I_T(\text{RMS})$	20	A
$V_{\text{DRM}} / V_{\text{RRM}}$	800	V
$I_{\text{GT}}$	$\leq 25$	mA

### ●Absolute ratings (Limiting Values)

Symbol	Parameter	Value	Unit
$I_T(\text{RMS})$	RMS on-state current ( $180^{\circ}$ conduction angle)	20	A
$I_{T(\text{AV})}$	AV on-state current ( $180^{\circ}$ conduction angle)	13	A
$I_{\text{TSM}}$	Non repetitive surge peak on-state Current ( $t_p=10\text{ms}$ )	200	A
$I_{\text{GM}}$	Peak gate current( $t_p=20\mu\text{s}$ )	4	A
$P_{\text{GM}}$	Peak gate power	5	W
$P_{\text{G(AV)}}$	Average gate power	1	W
Tstg	Storage temperature	-40--+150	$^{\circ}\text{C}$
$T_j$	Operating junction temperature	-40--+125	

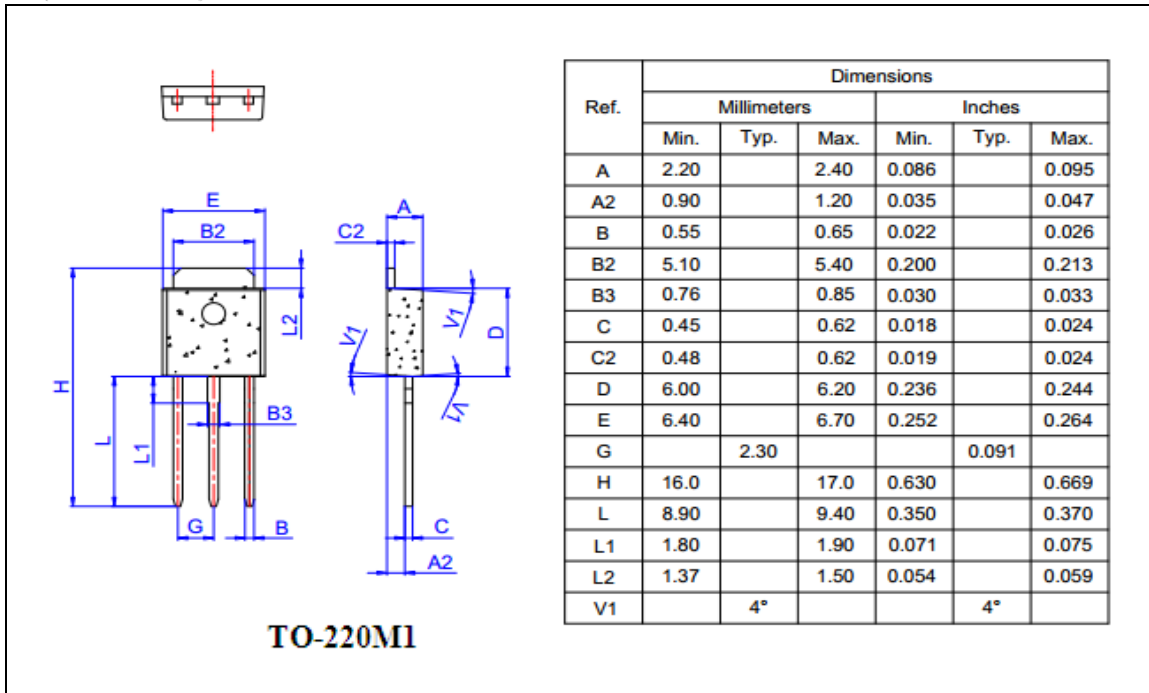
**●Thermai Resistances**

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)

