

BT152-600R/800R

● Product features

Silicon unilateral device NPNP four layer structure,

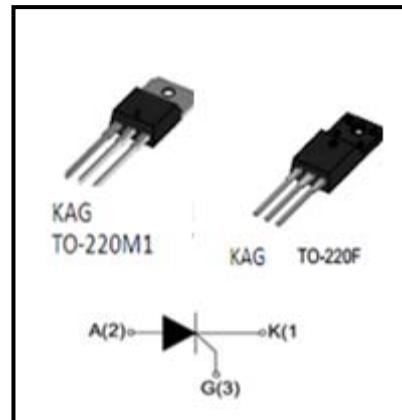
P⁺ on the through diffusion isolation,

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 (Tj=25°C)

Symbol	Value	Unit
I _T (RMS)	20	A
V _{DRM} V _{RRM}	600/800	V
I _{GT}	≤200	uA

● Absolute ratings (Limiting Values)

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

●Thermal Resistances

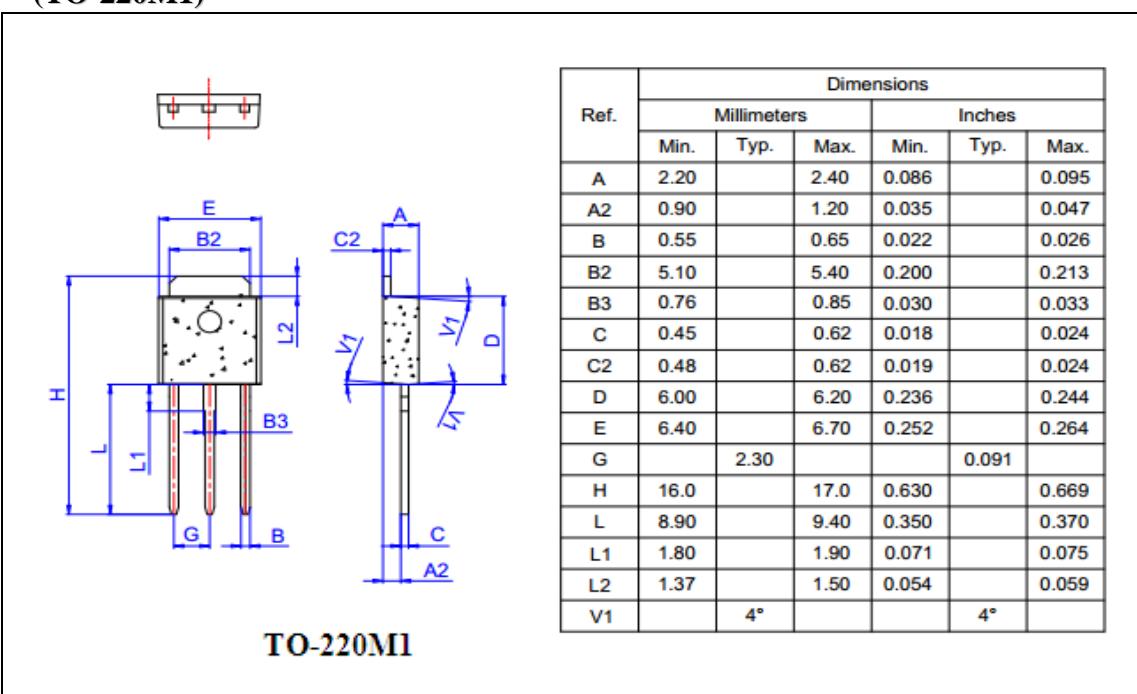
Symbol	Parameter		Value	Unit
R _{th} (j-c)	Junction to case	TO-220M1	2.2	°C/W
		TO-220F	2.5	

●Electrical characteristics (T_j=25°C unless otherwise stated)

Symbol	Test Conditions	Value			Unit
		Min	Type	Max	
I _{GT}	V _D =12V, R _L =33 Ω	----	5	25	mA
V _{GT}	V _D =12V, R _L =33 Ω	-----	-----	1.3	V
V _{GD}	V _D =V _{DRM} , R _L =3.3K Ω , R _{GK} =1K Ω , T _j =125°C	0.2	-----	-----	V
I _H	I _T =500mA	-----	-----	30	mA
I _L	I _G =1.2I _{GT}	-----	-----	60	mA
dV/dt	V _D =67%V _{DRM} , GateOpen, T _j =110°C	500	-----	-----	v/ μ s
V _{TM}	I _T =30A, tp=380 μ s	-----	-----	1.6	V
dI/dt	I _G =2I _{GT}	50	-----	-----	A/ μ s
I ² T	Tp=10ms	-----	-----	200	A ² S
I _{DRM}	V _D =V _{DRM}	T _j =25°C	-----	10	μA
		T _j =125°C	-----	1	mA
I _{RRM}	V _R =V _{RRM}	T _j =25°C	-----	10	μA
		T _j =125°C	-----	1	mA

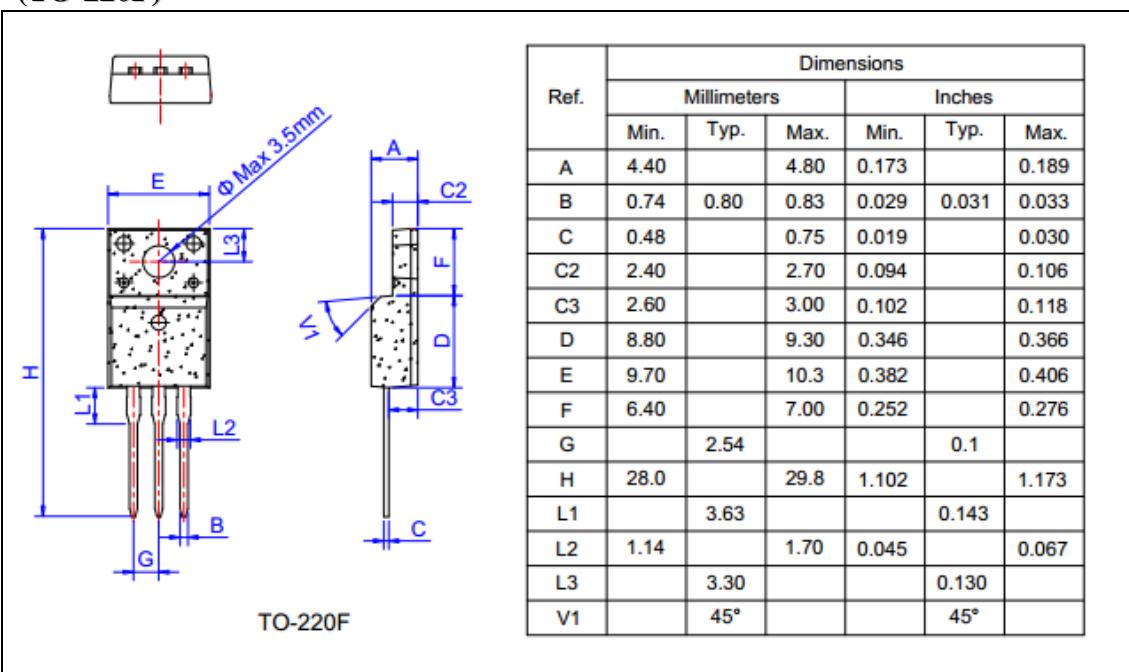


● Measure of package
(TO-220M1)



TO-220M1

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		1.90	0.071		0.075
L2	1.37		1.50	0.054		0.059
V1		4°			4°	

(TO-220F)


TO-220F

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.48		0.75	0.019		0.030
C2	2.40		2.70	0.094		0.106
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.70		10.3	0.382		0.406
F	6.40		7.00	0.252		0.276
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	