



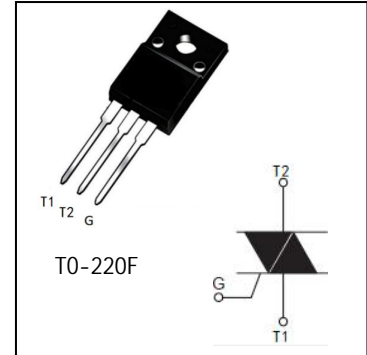
YZPST-BTA204X

• Package

TO-220F

•Main Feature($T_j=25^{\circ}\text{C}$)

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM} / V_{RRM}	≥ 800	V
I_{TSM}	25	A



•Absolute ratings (Limiting Values)

Symbol	Parameter	Value	Unit
$I_T(RMS)$	Rms on-state current(full sine wave)	4	A
I_{TSM}	Non- repetitive Peak on-state Current ($T_j=25^{\circ}\text{C}, t_p=20\text{ms}$)	25	A
I^2t	I^2t for fusing($t_p=10\text{ms}$)	3.1	A^2S
I_{GM}	Peak gate current	2	A
V_{GM}	Peak gate voltage	5	V
P_{GM}	Peak gate power	5	W
$P_{G(AV)}$	Average gate power	0.5	W
di/dt	Repetitive rate of rise of on-state current after triggering ($I_T=6\text{A}, I_G=0.2\text{A}, di_G/dt=0.2\text{A}/\mu\text{s}$)	100	$\text{A}/\mu\text{s}$
T_{stg}	Storage temperature	-40--+150	$^{\circ}\text{C}$
T_j	Operating junction temperature	-40--+110	$^{\circ}\text{C}$

•Thermal Resistances

Symbol	Parameter	Condition	Min	Type	Max	Unit
$R_{th\ j-mb}$	Thermal Resistance, Junction to mb	One cycle	---	---	3.0	K/W
		Half cycle	---	---	3.7	K/W
$R_{th\ j-a}$	Thermal Resisatance, Junction to ambient	in free air	---	60	---	K/W



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

Symbol	Conditions	Min	Type	Max	Unit
I _{GT}	BT204- V _D =12V I _T =0.1A				
	T2+ G+	---		35	mA
	T2+ G-	---		35	mA
	T2- G-	---		35	mA
I _H	V _D =12V I _{GT} =0.1A		2	12	mA
I _L	I _G =2×I _{GT}	I -III		6	mA
		II		9	
V _{TM}	I _T =8A	---	1.25	1.7	V
I _{DRM}	V _{DRM} =600V			10	μA
I _{RRM}	V _{RRM} =600V			10	μA
V _{GT}	V _D =12V I _T =0.1A	---	0.7	1.65	V
	V _D =400V I _T =0.1A T _j =125°C	0.25	0.4	1.5	V
I _D	V _D =V _{DRM (MAX)} T _j =125°C	---	0.1	0.5	mA

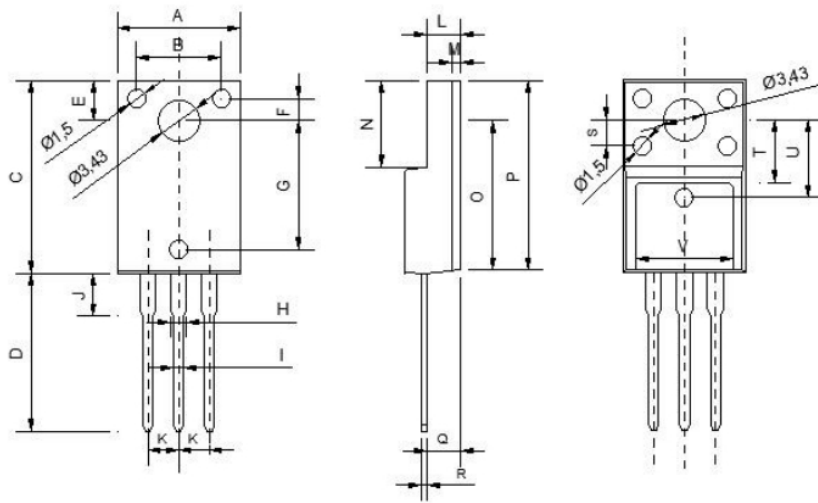
● **Dynamic characteristics (T_j=25°C unless otherwise stated)**

Symbol	Conditions	Min	Type	Max	Unit
dV _D /dt	V _{DM} =67%V _{Dm (MAX)} T _j =125°C		30		V/μs
t _{gt}	I _{Tm} =12A V _D =V _{DRM (MAX)} I _G =0.1A dl _G /dt=5A/ms		2	---	μs



● **PACKAGE MECHANICAL DATA**

TO-220F:



Millimeter						Inches					
Symbol	Min	Max	Symbol	Min	Max	Symbol	Min	Max	Symbol	Min	Max
A	10.06	10.26	L	2.7	2.9	A	0.396	0.404	L	0.106	0.114
B	6.95	7.05	M	0.715	0.725	B	0.274	0.278	M	0.028	0.029
C	15.82	15.92	N	7.05	7.25	C	0.623	0.627	N	0.278	0.285
D	12.8	13	O	12.47	12.67	D	0.504	0.512	O	0.491	0.499
E	3.25	3.35	P	15.77	15.97	E	0.128	0.132	P	0.621	0.629
F	1.75	1.85	Q	2.73	2.83	F	0.069	0.073	Q	0.107	0.111
G	10.55	10.65	R	0.49	0.51	G	0.415	0.419	R	0.019	0.020
H	1.26	1.3	S	2.05	2.15	H	0.050	0.051	S	0.081	0.085
I	0.81	0.83	T	4.85	4.95	I	0.032	0.033	T	0.191	0.195
J	3.5	3.56	U	6.05	6.15	J	0.138	0.140	U	0.238	0.242
K	2.53	2.55	V	7.9	8.1	K	0.100	0.100	V	0.311	0.319