



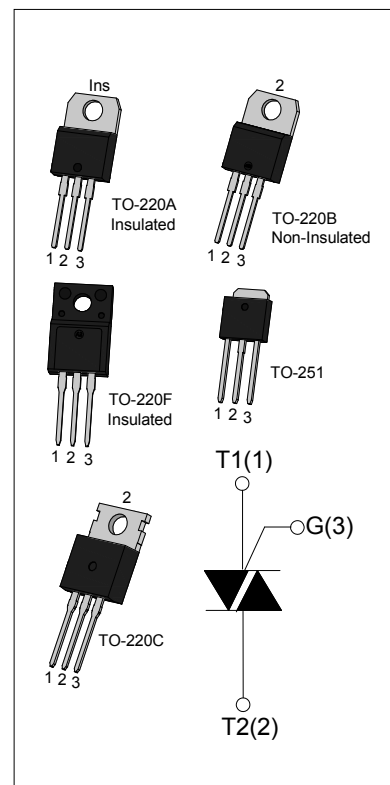
DESCRIPTION:

With high ability to withstand the shock loading of large current, JST06 series triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, the products especially recommended for use on inductive load.

From all three terminals to external heatsink, JST06A provides a rated insulation voltage of 2500 V_{RMS}, and JST06F provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). All the packages listed are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
I _{T(RMS)}	6	A
V _{DRM} /V _{RRM}	600/800	V



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T _{stg}	-40 – 150	°C
Operating junction temperature range		T _j	-40 – 125	°C
Repetitive peak off-state voltage (T _j =25°C)		V _{DRM}	600/800	V
Repetitive peak reverse voltage (T _j =25°C)		V _{RRM}	600/800	V
RMS on-state current	TO-220A(Ins)/ TO-220F(Ins)/ TO-251 (T _c =100°C)	I _{T(RMS)}	6	A
	TO-220B(Non-Ins)/ TO-220C (T _c =105 °C)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I _{TSM}	60	A
I ² t value for fusing (tp=10ms)		I ² t	18	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT})	I - II - III	di/dt	50	A/μs
	IV		10	

Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}C$ unless otherwise specified)

3 Quadrants

Symbol	Test Condition	Quadrant		Value				Unit
				TW	SW	CW	BW	
I_{GT}	$V_D=12V R_L=30\Omega$	I - II -III	MAX	5	10	35	50	mA
V_{GT}		I - II -III	MAX	1.5				V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}C$ $R_L=3.3K\Omega$	I - II -III	MIN	0.2				V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	10	15	50	70	mA
		II		15	25	60	80	
I_H	$I_{TM}=0.2A$		MAX	6	10	35	60	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}C$		MIN	50	100	400	1000	V/ μs
(di/dt)c	Without sunbber $T_j=125^{\circ}C$		MIN	1.2	2.4	3.5	5.3	A/ms

4 Quadrants

Symbol	Test Condition	Quadrant		Value		Unit
				C	B	
I_{GT}	$V_D=12V R_L=30\Omega$	I - II -III	MAX	25	50	mA
		IV		50	70	
V_{GT}		ALL	MAX	1.5		V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}C$ $R_L=3.3K\Omega$	ALL	MIN	0.2		V
I_L	$I_G=1.2I_{GT}$	I -III-IV	MAX	50	70	mA
		II		60	80	
I_H	$I_{TM}=0.2A$		MAX	40	60	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}C$		MIN	200	500	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=8.5A$ $t_p=380\mu s$	$T_j=25^\circ C$	1.5	V
V_{TO}	Threshold voltage	$T_j=125^\circ C$	0.93	V
R_d	Dynamic resistance	$T_j=125^\circ C$	45	m Ω
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j=25^\circ C$	5	mA
I_{RRM}		$T_j=125^\circ C$	1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins) TO-220F(Ins)	2.9	$^\circ C/W$
		TO-220C/ TO-220B(Non-Ins)	2.3	
		TO-251	2.7	

ORDERING INFORMATION

<p>JieJie Microelectronics Co.,Ltd</p>	<p>J</p> <p>Triacs</p>	<p>ST</p> <p>$I_{T(RMS)}:6A$</p>	<p>06</p> <p>H:TO-251 C:TO-220C A:TO-220A(Ins) F:TO-220F(Ins) B:TO-220B(Non-Ins)</p>	<p>A</p>	<p>-600</p> <p>600: $V_{DRM} / V_{RRM} \geq 600V$ 800: $V_{DRM} / V_{RRM} \geq 800V$</p>	<p>C</p>	<p>-/</p> <p>Blank: Tube</p> <p>TW: $I_{GT1-3} \leq 5mA$ SW: $I_{GT1-3} \leq 10mA$ CW: $I_{GT1-3} \leq 35mA$ BW: $I_{GT1-3} \leq 50mA$ C: $I_{GT1-3} \leq 25mA$ $I_{GT4} \leq 50mA$ B: $I_{GT1-3} \leq 50mA$ $I_{GT4} \leq 70mA$</p>
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MARKING

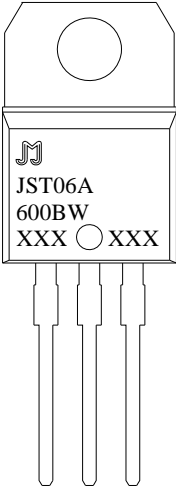
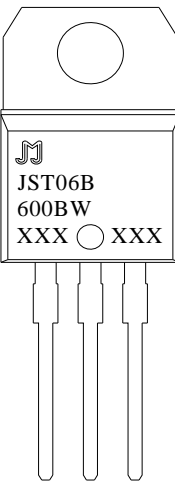
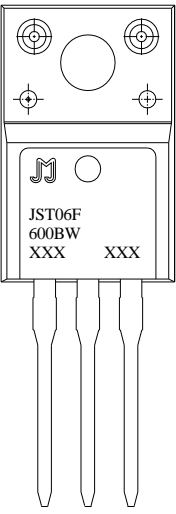
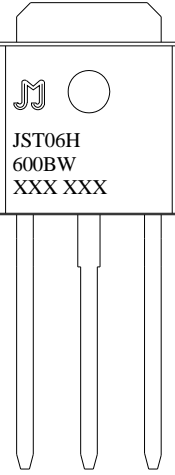
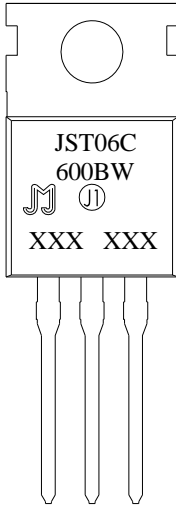
 <p>JST06A 600BW XXX ○ XXX</p>	 <p>JST06B 600BW XXX ○ XXX</p>
 <p>JST06F 600BW XXX XXX</p>	 <p>JST06H 600BW XXX XXX</p>
 <p>JST06C 600BW XXX XXX</p>	<p>Year — <u>XXX</u> <u>XXX</u> — Production code Month — </p>

FIG.1: Maximum power dissipation versus RMS on-state current

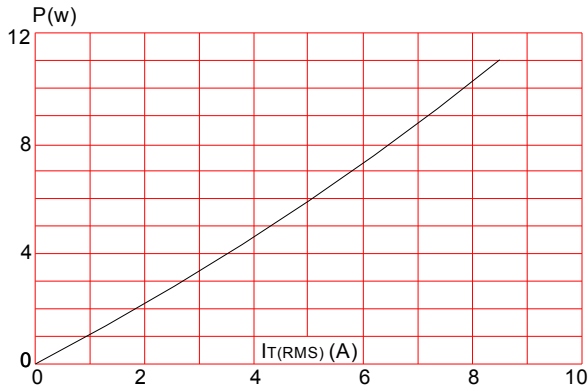


FIG.3: Surge peak on-state current versus number of cycles

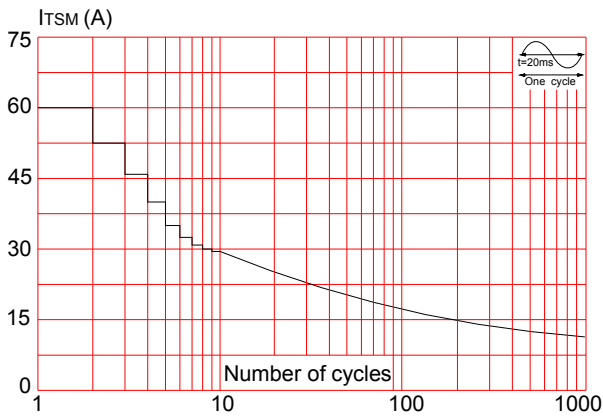


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II -III: $di/dt < 50\text{A}/\mu\text{s}$; IV: $di/dt < 10\text{A}/\mu\text{s}$)

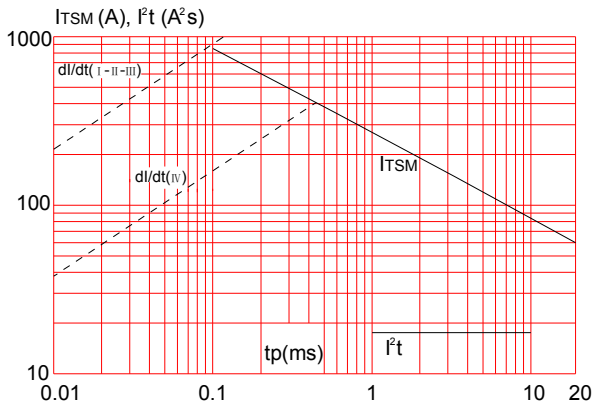


FIG.2: RMS on-state current versus case temperature

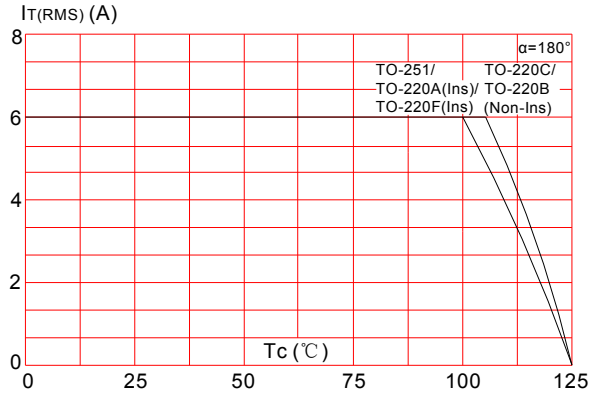


FIG.4: On-state characteristics (maximum values)

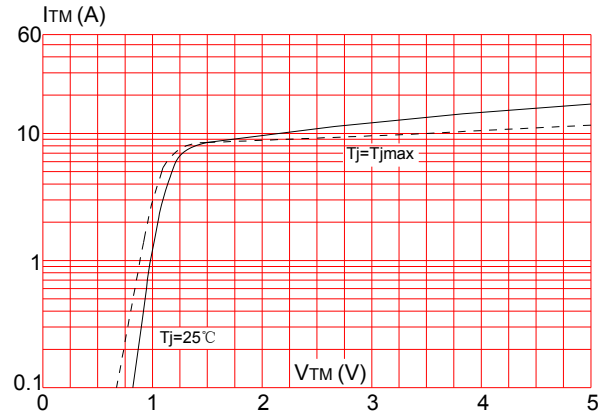


FIG.6: Relative variations of gate trigger current versus junction temperature

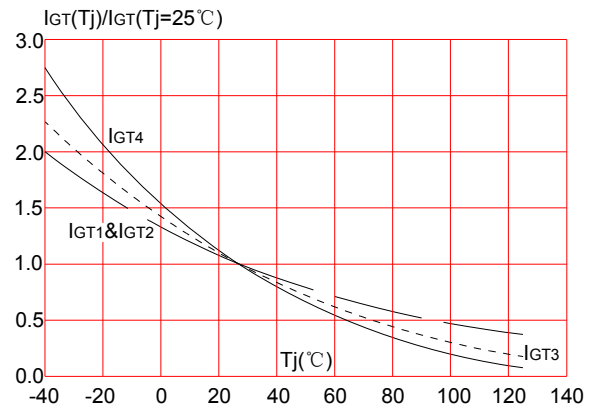


FIG.7: Relative variations of holding current versus junction temperature

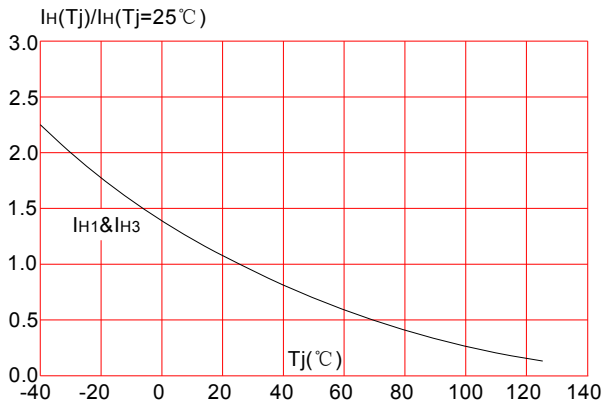
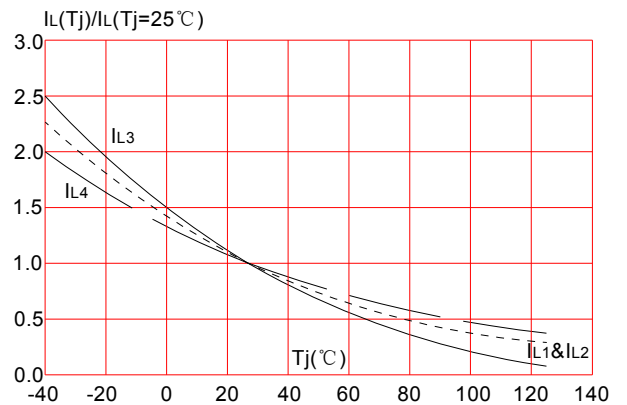


FIG.8: Relative variations of latching current versus junction temperature



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(Ma)		Package	Base qty. (pcs)	Delivery mode
		I - II -III	IV			
JST06A-600/800C	600/800	25	50	TO-220A(Ins)	50	Tube
JST06A-600/800B		50	70			
JST06B-600/800C		25	50	TO-220B (Non-Ins)		
JST06B-600/800B		50	70			
JST06C-600/800C		25	50	TO-220C		
JST06C-600/800B		50	70			
JST06F-600/800C		25	50	TO-220F(Ins)		
JST06F-600/800B		50	70			
JST06H-600/800C		25	50	TO-251		
JST06H-600/800B		50	70			

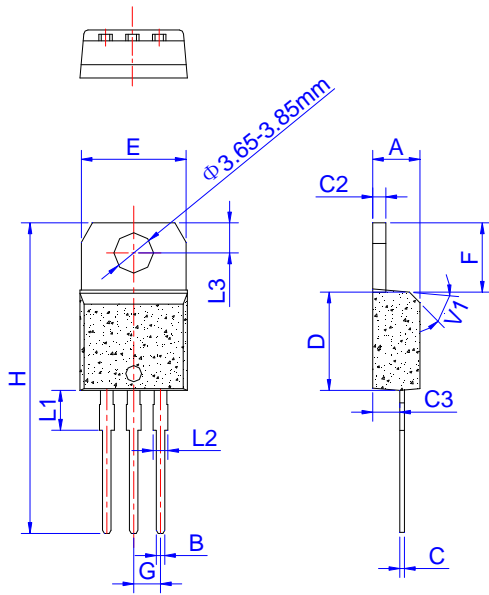
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(Ma)	Package	Base qty. (pcs)	Delivery mode
JST06A-600/800TW	600/800	5	TO-220A(Ins)	50	Tube
JST06A-600/800SW		10			
JST06A-600/800CW		35			
JST06A-600/800BW		50			
JST06B-600/800TW		5	TO-220B (Non-Ins)		
JST06B-600/800SW		10			
JST06B-600/800CW		35			
JST06B-600/800BW		50			
JST06C-600/800TW		5	TO-220C		
JST06C-600/800SW		10			
JST06C-600/800CW		35			
JST06C-600/800BW		50			
JST06F-600/800TW		5	TO-220F(Ins)		
JST06F-600/800SW		10			
JST06F-600/800CW		35			
JST06F-600/800BW		50			
JST06H-600/800TW		5	TO-251	80	
JST06H-600/800SW		10			
JST06H-600/800CW		35			
JST06H-600/800BW		50			

Document Revision History

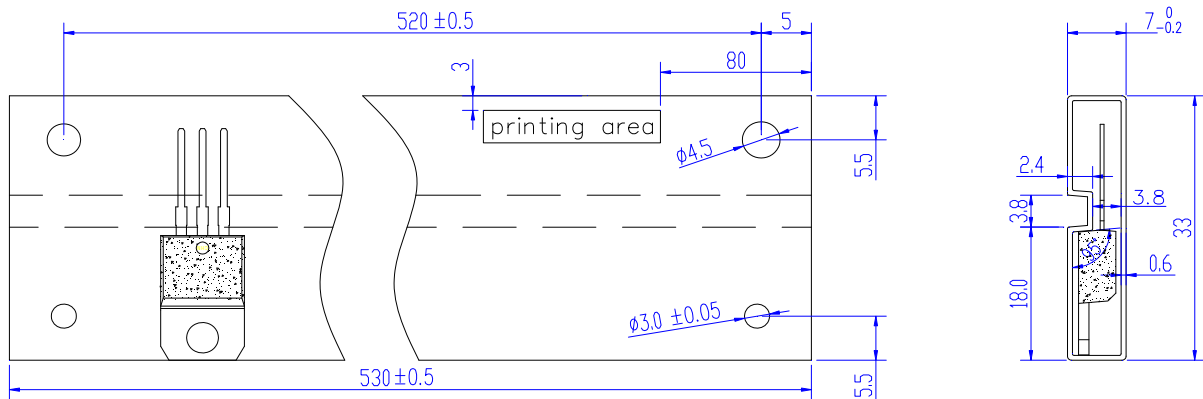
Date	Revision	Changes
June 29, 2021	5	Last update
Aug 10, 2021	6	Add TO-220C package
Jan 6, 2022	7	Add Vto & Rd value

PACKAGE MECHANICAL DATA



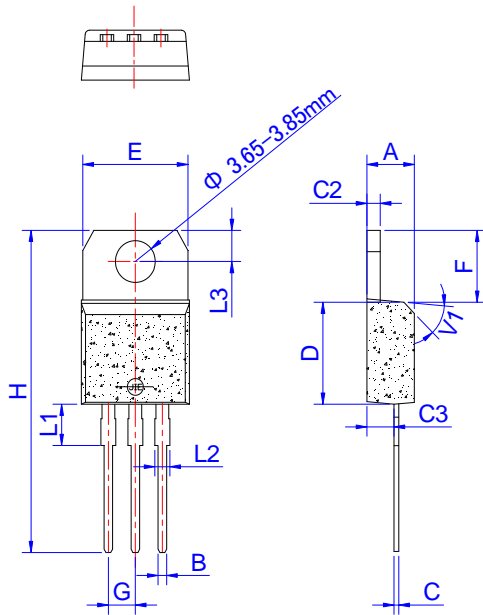
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



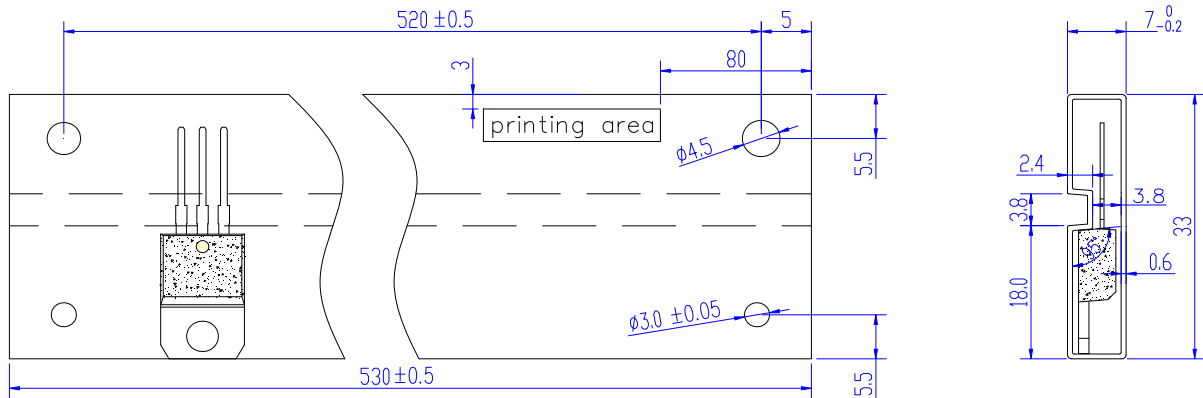
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TO-220A	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



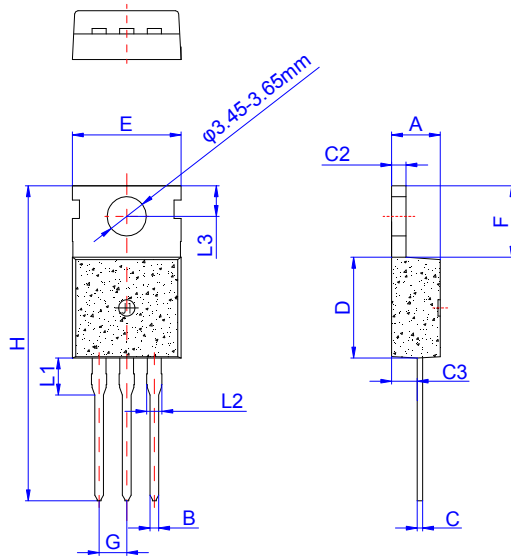
Ref.	Dimensions					
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	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1		3.75			0.147	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



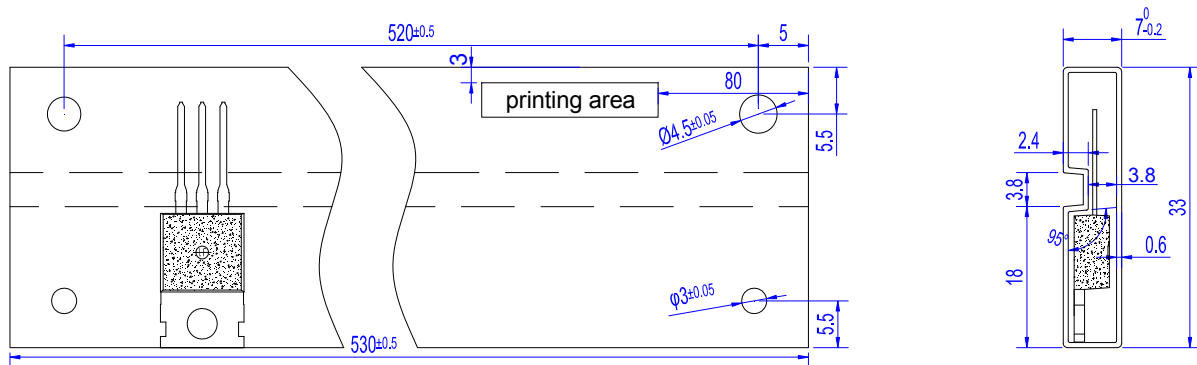
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TO-220B	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



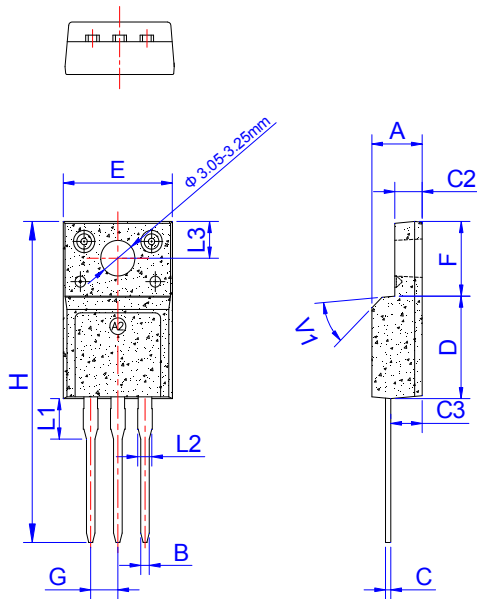
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116

DELIVERY MODE



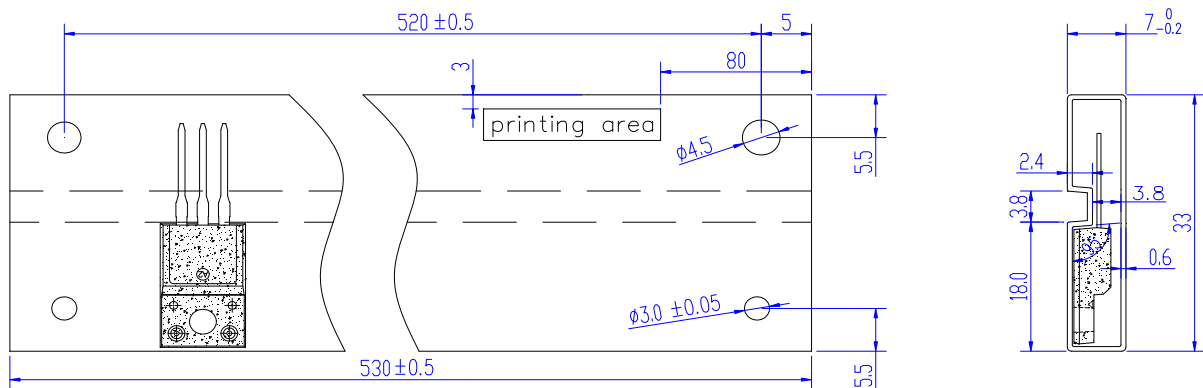
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TO-220C	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



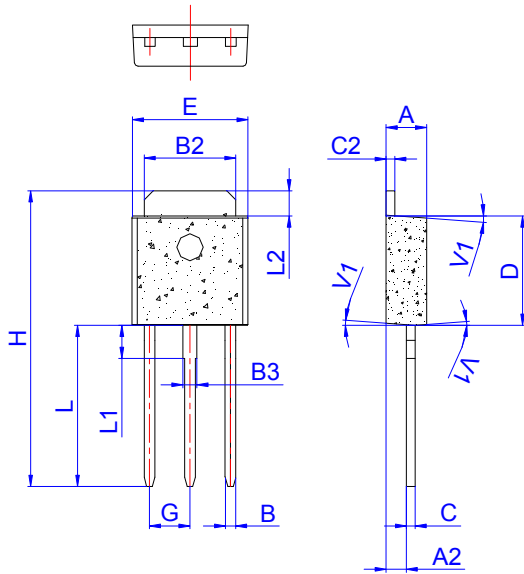
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	Millimeters			Inches		
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A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G	2.40		2.70	0.094		0.106
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°	

DELIVERY MODE



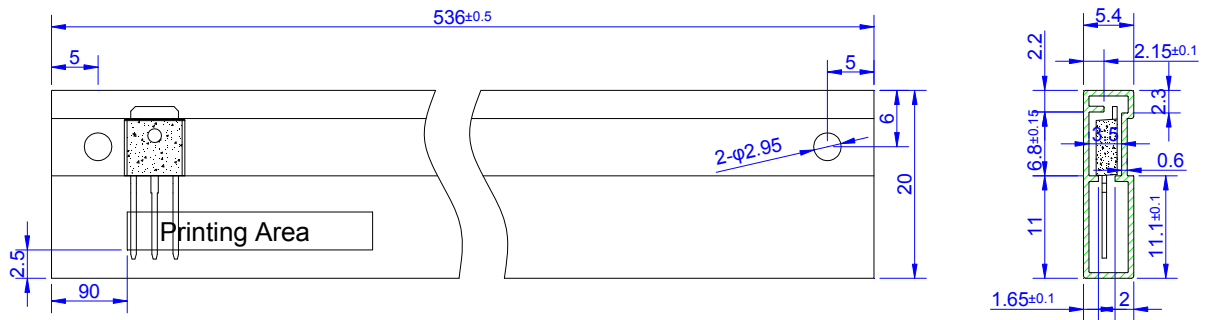
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TO-220F	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



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°	

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-251	TUBE	80	4,000	20,000



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