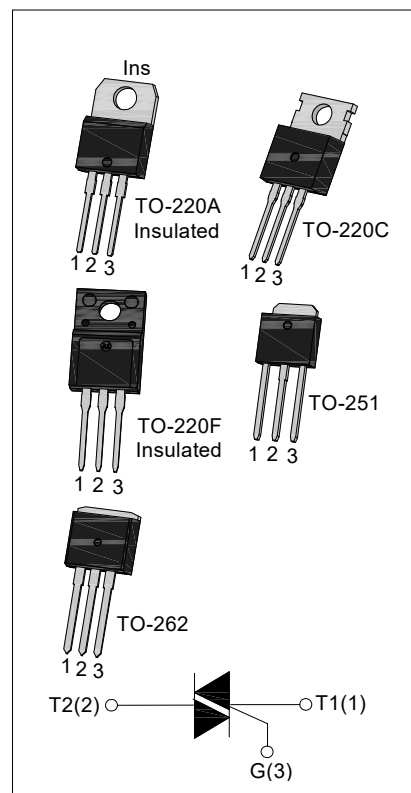




DESCRIPTION:

With high ability to withstand the shock loading of large current, JST04 series triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use on inductive load. From all three terminals to external heatsink, JST04A provides a rated insulation voltage of 2500 V_{RMS}, and JST04F provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). All the packages listed above are RoHS compliant. (2011/65/EU)



MAIN FEATURES

Symbol	Value	Unit
V _{DRM} / V _{RPM}	600/800	V
I _{T(RMS)}	4	A

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 _{RPM}	600/800	V
RMS on-state current	TO-220A(Ins)/ TO-220F(Ins) (T _C =105°C)	I _{T(RMS)}	4	A
	TO-220C/ TO-251/ TO-262 (T _C =110°C)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I _{TSM}	40	A
I ² t value for fusing (tp=10ms)		I ² t	8	A ² s
Critical rate of rise of on-state current (I _G = 2 × I _{GT})		di/dt	50	A/μs

Peak gate current	I_{GM}	4	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)

Symbol	Test Condition	Quadrant		Value				Unit
				TW	SW	CW	BW	
I_{GT}	$V_D=12V R_L=33\Omega$	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	20	50	70	mA
		II		15	35	60	80	
I_H	$I_T=100mA$		MAX	10	15	35	60	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}C$		MIN	50	100	400	1000	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=5.5A t_p=380\mu s$	$T_j=25^{\circ}C$	1.5	V
V_{TO}	Threshold voltage	$T_j=125^{\circ}C$	0.93	V
R_d	Dynamic resistance	$T_j=125^{\circ}C$	97	m Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}C$	10	μA
I_{RRM}		$T_j=125^{\circ}C$	0.75	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	junction to case(AC)	TO-220A(Ins)/ TO-220F(Ins)	3.87	°C/W
		TO-262/TO-220C TO-251	2.9	

ORDERING INFORMATION

<p>J</p> <p>JieJie Microelectronics Co.,Ltd</p>	<p>ST</p> <p>Triacs</p> <p>I_{T(RMS)}:4A</p> <p>F:TO-220F(Ins) D:TO-262 C:TO-220C H:TO-251A:TO-220A(Ins)</p>	<p>04</p>	<p>H</p>	<p>-600</p> <p>600:V_{DRM} /V_{RRM}≥600V 800:V_{DRM} /V_{RRM}≥800V</p>	<p>TW</p> <p>TW: I_{GT1-3}≤5mA SW: I_{GT1-3}≤10mA CW: I_{GT1-3}≤35mA BW: I_{GT1-3}≤50mA</p>	<p>-/</p> <p>Blank: Tube</p>
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MARKING

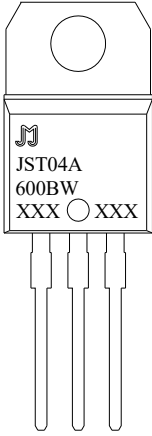
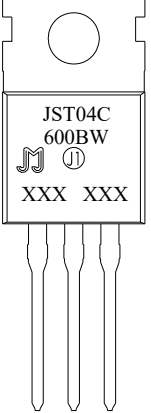
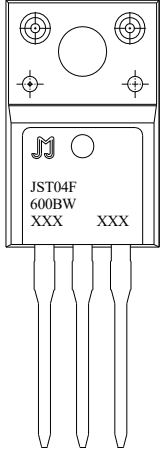
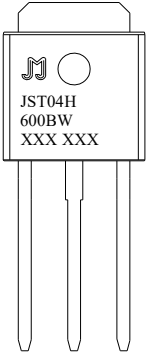
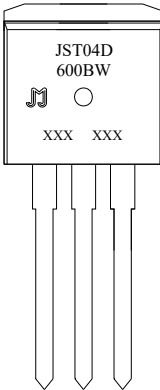
 <p>JST04A 600BW XXX ○ XXX</p>	 <p>JST04C 600BW XXX XXX</p>
 <p>JST04F 600BW XXX XXX</p>	 <p>JST04H 600BW XXX XXX</p>
 <p>JST04D 600BW XXX XXX</p>	<p>XXX XXX</p> <p>Year _____ Month _____ Production Code</p>

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

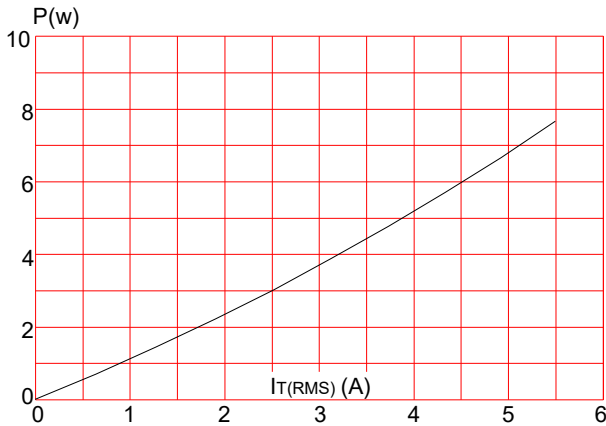


FIG.2: RMS on-state current versus case temperature

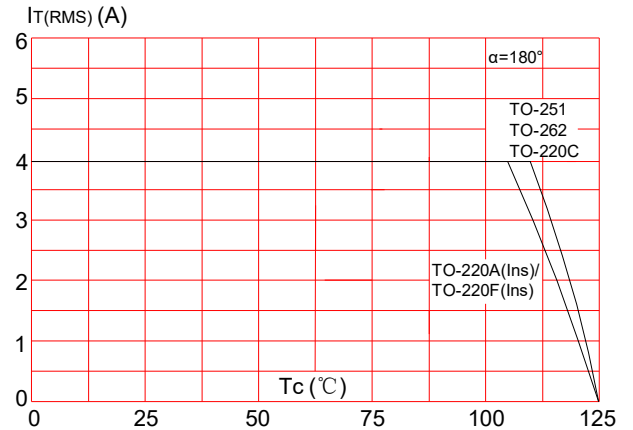


FIG.3: Surge peak on-state current versus number of cycles

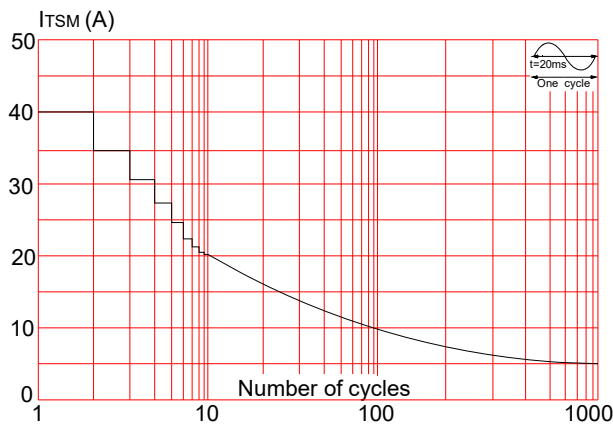


FIG.4: On-state characteristics (maximum values)

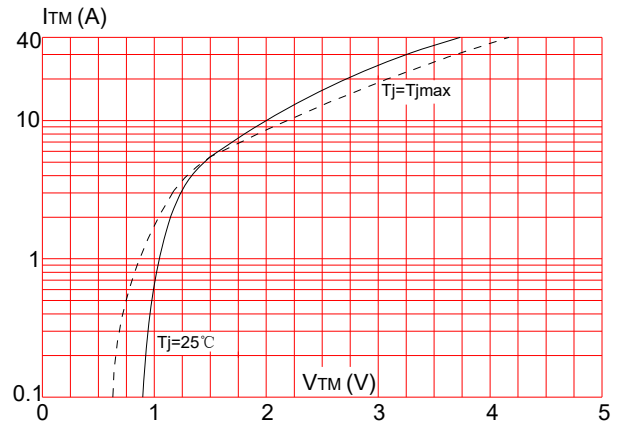


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

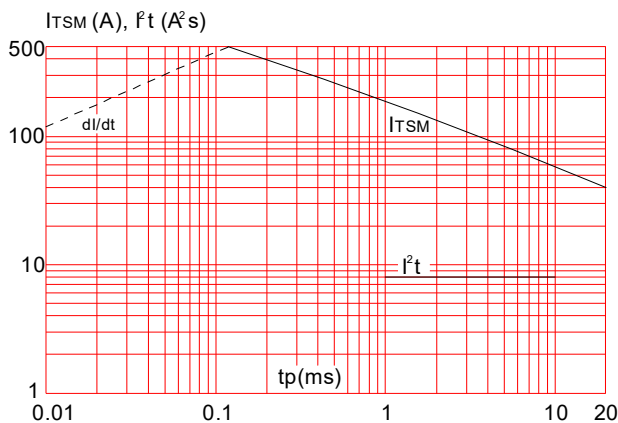
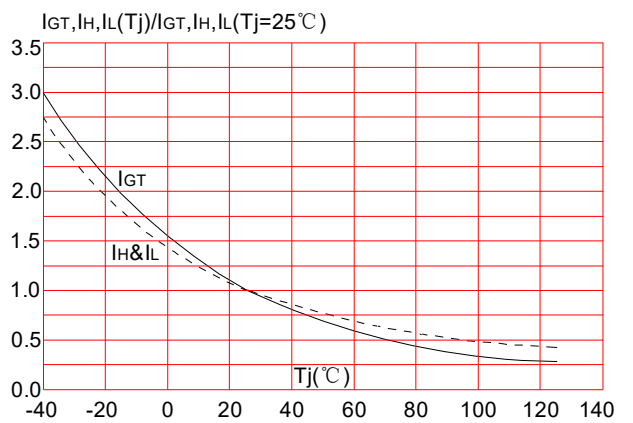


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



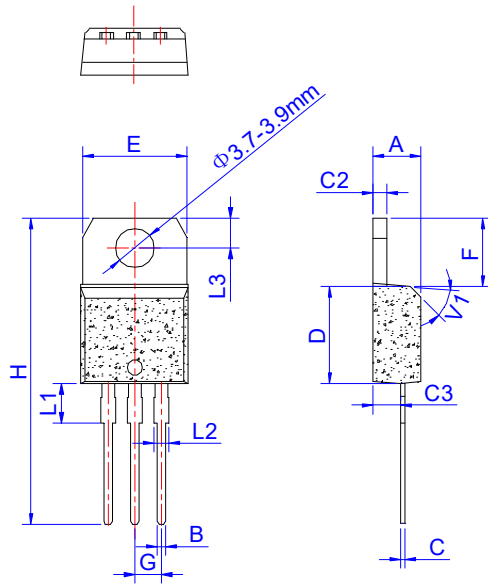
ORDERING INFORMATION

Order code	Voltage V _{DRM} /V _{R_{RRM}} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST04A-600/800TW	600/800	5	TO-220A(Ins)	50	Tube
JST04A-600/800SW		10			
JST04A-600/800CW		35			
JST04A-600/800BW		50			
JST04F-600/800TW		5	TO-220F(Ins)		
JST04F-600/800SW		10			
JST04F-600/800CW		35			
JST04F-600/800BW		50			
JST04C-600/800TW		5	TO-220C		
JST04C-600/800SW		10			
JST04C-600/800CW		35			
JST04C-600/800BW		50			
JST04D-600/800TW		5	TO-262		
JST04D-600/800SW		10			
JST04D-600/800CW		35			
JST04D-600/800BW		50			
JST04H-600/800TW		5	TO-251	80	
JST04H-600/800SW		10			
JST04H-600/800CW		35			
JST04H-600/800BW		50			

Document Revision History

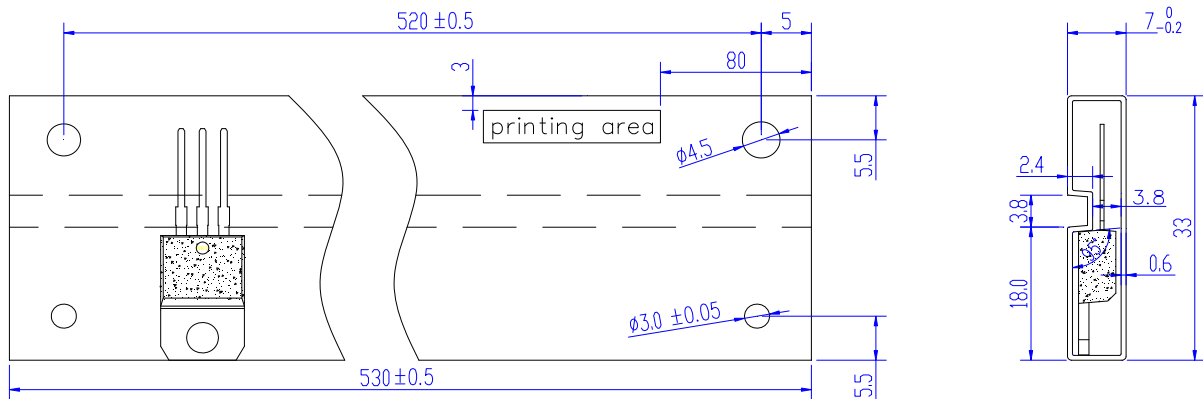
Date	Revision	Changes
April 27, 2021	13	Last update
Aug 14, 2021	14	Add TO-220C package
Sep 17, 2021	15	Renew V _{to} & R _d value
Jun 13, 2022	16	Delete TO-220B package

PACKAGE MECHANICAL DATA



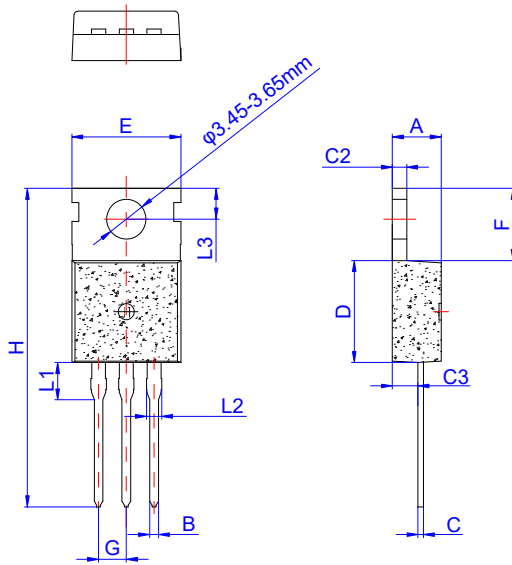
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.25		6.85	0.246		0.270
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.45		4.05	0.136		0.159
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



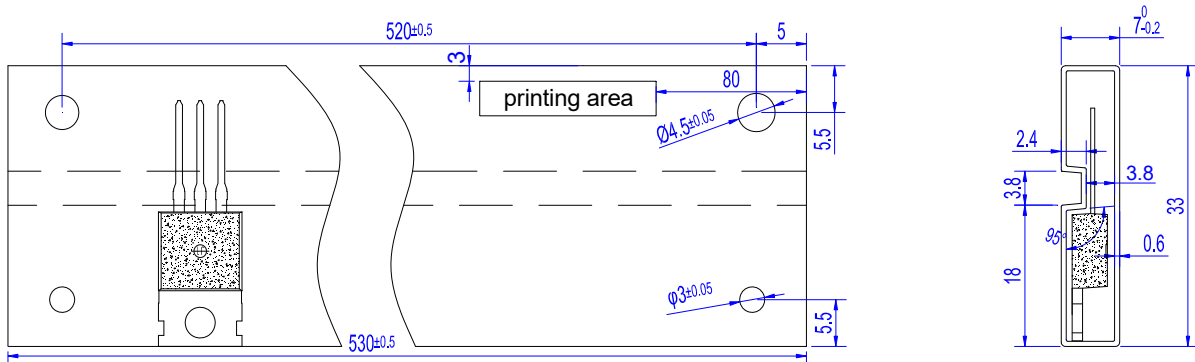
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



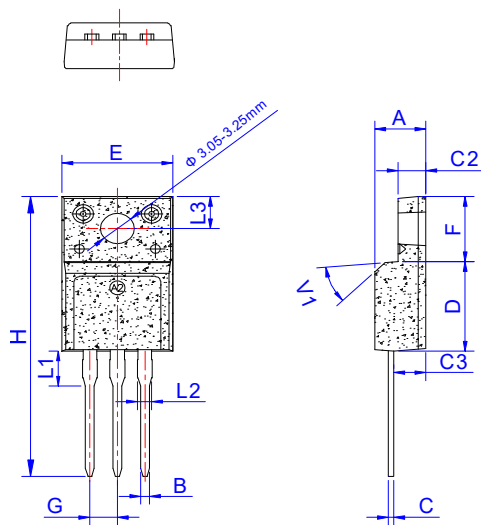
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.25		1.35	0.049		0.053
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	2.70		3.30	0.106		0.130
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116

DELIVERY MODE



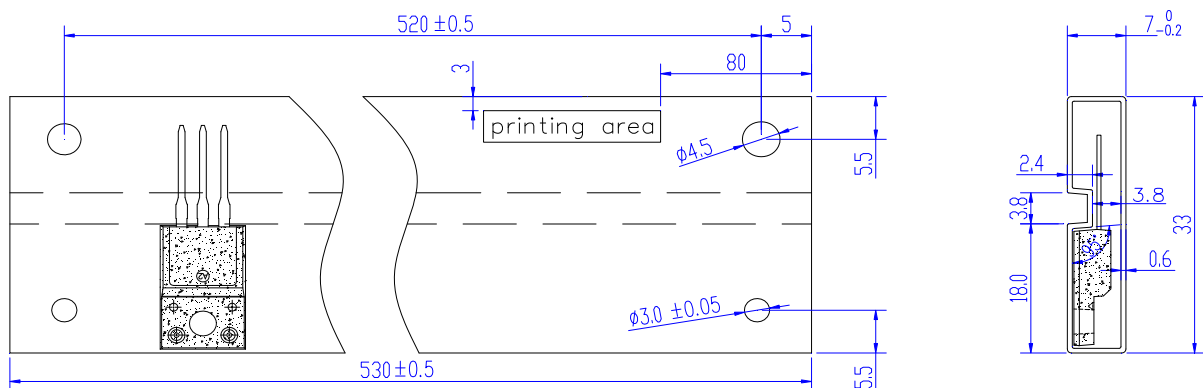
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220C	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



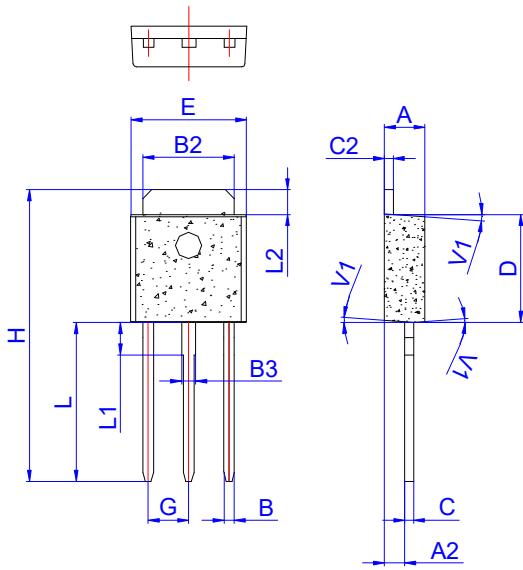
Ref.	Dimensions					
	Millimeters			Inches		
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A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.20		3.80	0.126		0.150
L2	1.14		1.70	0.045		0.067
L3	3.20		3.60	0.126		0.142
V1		45°			45°	

DELIVERY MODE



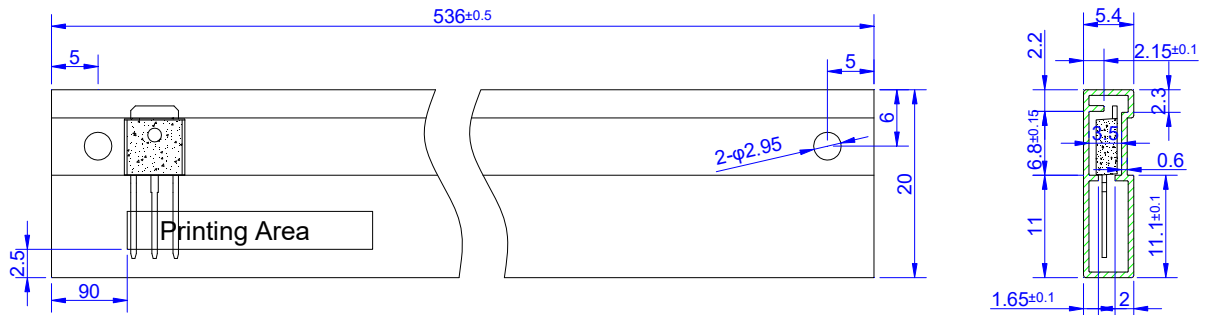
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TO-220F	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



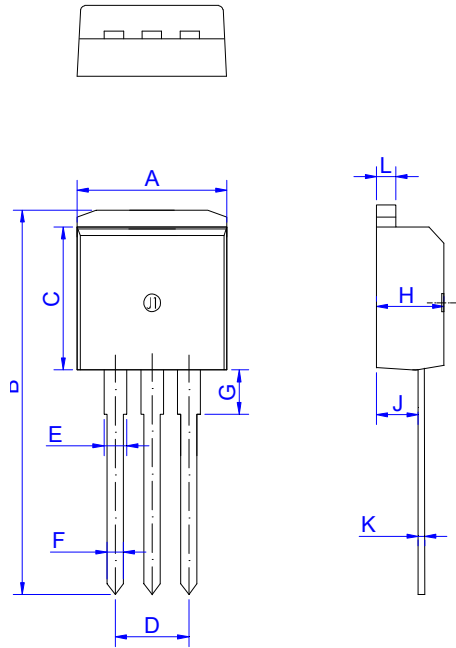
Ref.	Dimensions					
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A	2.20		2.40	0.086		0.095
A2	1.00		1.30	0.039		0.051
B	0.50		0.70	0.020		0.028
B2	5.10		5.40	0.200		0.213
B3	0.70		1.00	0.028		0.039
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	2.20		2.40	0.087		0.094
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		2.20	0.071		0.087
L2	1.25		1.55	0.049		0.061
V1		4°			4°	

DELIVERY MODE



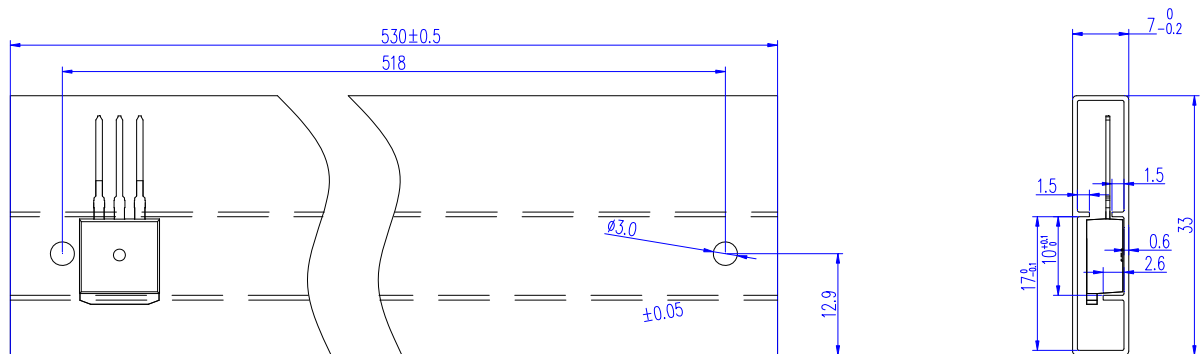
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TO-251	TUBE	80	4,000	20,000

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.95		10.20	0.392		0.402
B	23.85		24.05	0.939		0.947
C	9.40		9.60	0.370		0.378
D	4.95		5.25	0.195		0.207
E	1.35		1.40	0.053		0.055
F	0.80		0.85	0.031		0.033
G	2.70		3.40	0.106		0.134
H	4.45		4.55	0.175		0.179
J	2.20		2.60	0.087		0.102
K	0.48		0.52	0.019		0.020
L	1.30		1.35	0.051		0.053

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-262	TUBE	50	1,000	5,000



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