



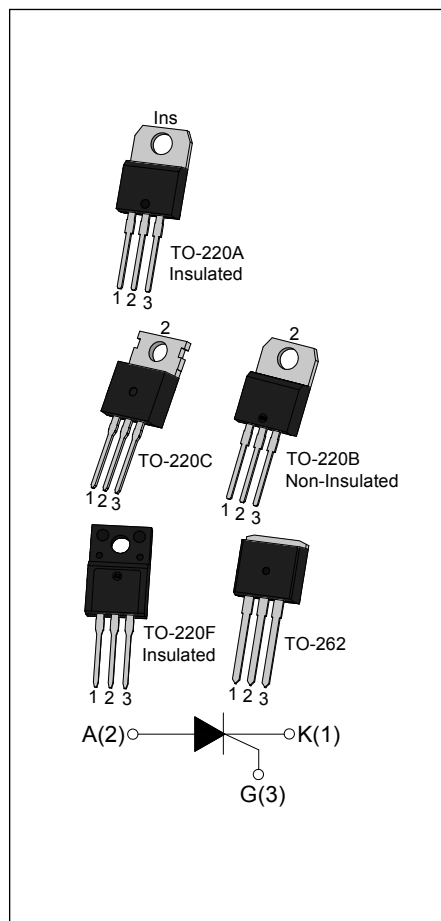
### DESCRIPTION:

With high ability to withstand the shock loading of large current, JCTxx25 SCRs provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

From all three terminals to external heatsink, JCTxx25A provides a rated insulation voltage of 2500 V<sub>RMS</sub>, and JCTxx25F provides a rated insulation voltage of 2000 V<sub>RMS</sub>, complying with UL standards (File ref: E252906). All the packages Listed above are RoHS compliant. (2011/65/EU)

### MAIN FEATURES

Symbol	Value	Symbol
V <sub>DRM</sub> / V <sub>RPM</sub>	1200/1600	V
I <sub>T(RMS)</sub>	25	A
I <sub>GT</sub>	≤35	mA



### ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T <sub>stg</sub>	-40-150	°C
Operating junction temperature range		T <sub>j</sub>	-40-125	°C
Repetitive peak off-state voltage(T <sub>j</sub> =25°C)		V <sub>DRM</sub>	1200/1600	V
Repetitive peak reverse voltage(T <sub>j</sub> =25°C)		V <sub>RPM</sub>	1200/1600	V
RMS on-state current	TO-220A(Ins)/ TO-220F(Ins) (T <sub>c</sub> =50°C)	I <sub>T(RMS)</sub>	25	A
	TO-220B(Non-Ins)/ TO-262/TO-220C (T <sub>c</sub> =75°C)			

Non repetitive surge peak on-state current (tp=10ms)	$I_{TSM}$	250	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	310	A <sup>2</sup> s
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	di/dt	100	A/ $\mu$ s
Peak gate current	$I_{GM}$	1.5	A
Average gate power dissipation	$P_{G(AV)}$	2	W
Peak gate power	$P_{GM}$	5	W

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	-	-	35	mA
$V_{GT}$		-	-	1.5	V
$V_{GD}$	$V_D=V_{DRM} T_j=125^\circ\text{C } R_L=3.3\text{K}\Omega$	0.25	-	-	V
$I_L$	$I_G=1.2I_{GT}$	-	-	150	mA
$I_H$	$I_T=500\text{mA}$	-	-	120	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$	1000	-	-	V/ $\mu$ s

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=50\text{A } tp=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.8	V
$V_{TO}$	Threshold voltage	$T_j=125^\circ\text{C}$	0.96	V
$R_D$	Dynamic resistance	$T_j=125^\circ\text{C}$	16	m $\Omega$
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	$\mu$ A
$I_{RRM}$		$T_j=125^\circ\text{C}$	4	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit	
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)	2.1	$^{\circ}\text{C}/\text{W}$
		TO-220B(Non-Ins)	1.1	
		TO-220C		
		TO-262	1.4	
		TO-220F(Ins)	2.3	

ORDERING INFORMATION

J
CT
16
25
B
-/

JieJie Microelectronics Co.,Ltd
SCRs
 $I_{T(RMS)}:25\text{A}$ 
Blank: Tube

12:  $V_{DRM}/V_{RRM} \geq 1200\text{V}$ 
16:  $V_{DRM}/V_{RRM} \geq 1600\text{V}$

D: TO-262
C: TO-220C
A: TO-220A(Ins)
F: TO-220F(Ins)
B: TO-220B(Non-Ins)

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

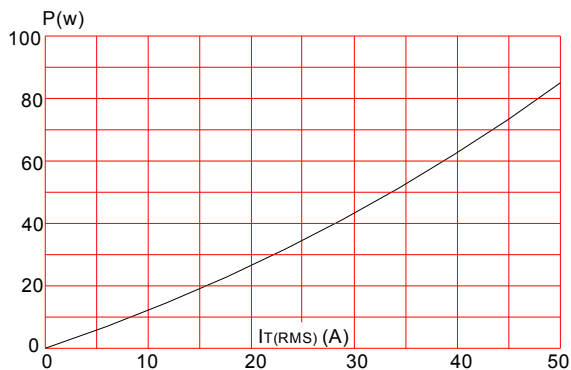


FIG.2: RMS on-state current versus case temperature

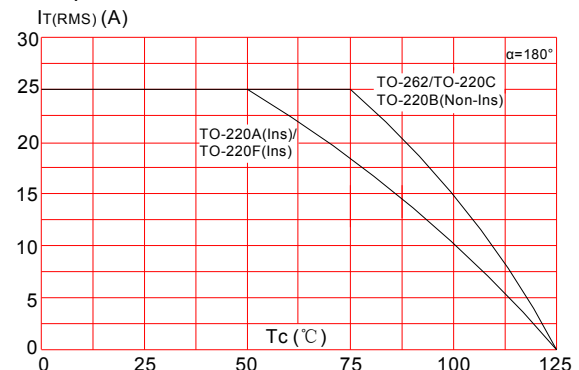


FIG.3: Surge peak on-state current versus number of cycles

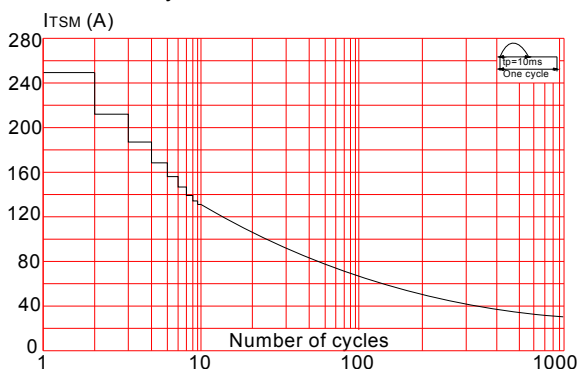
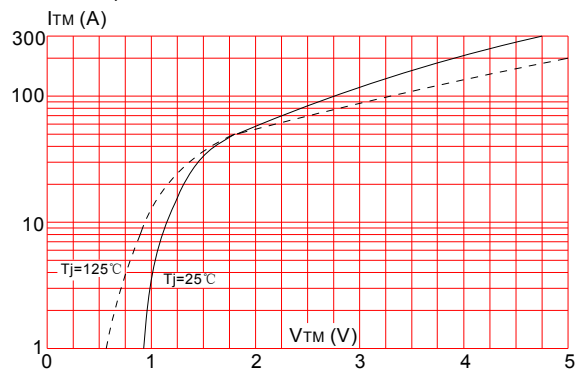
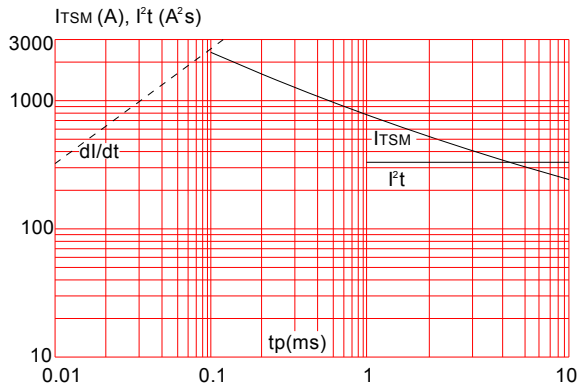


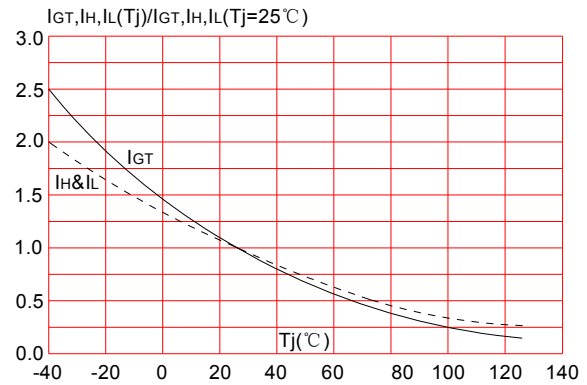
FIG.4: On-state characteristics (maximum values)



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I^2t$  ( $di/dt < 100\text{A}/\mu\text{s}$ )



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



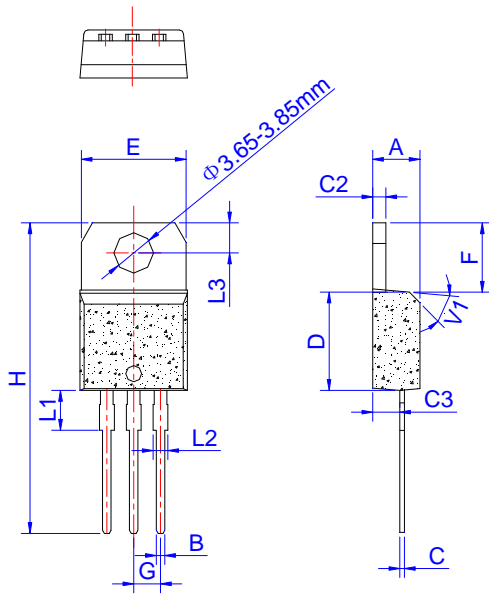
## ORDERING INFORMATION

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT1225/1625A	1200/1600	35	TO-220A(Ins)	50	Tube
JCT1225/1625B			TO-220B(Non-Ins)		
JCT1225/1625C			TO-220C		
JCT1225/1625F			TO-220F(Ins)		
JCT1225/1625D			TO-262		

**Document Revision History**

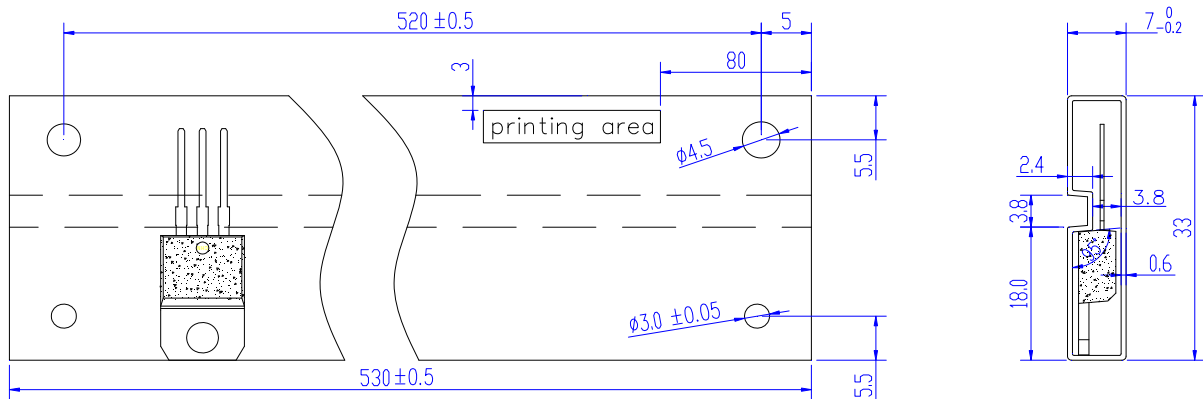
Date	Revision	Changes
Dec 9, 2020	8	Last update
Dec 23, 2021	9	Add $V_{TO}$ & $R_D$
Dec 28, 2021	10	Add Package TO-220C

PACKAGE MECHANICAL DATA



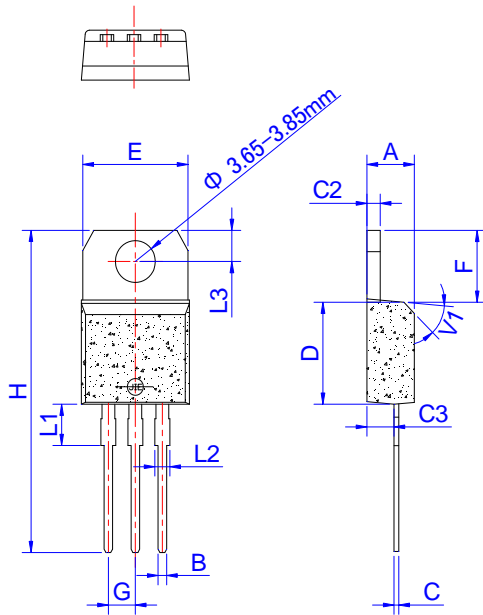
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G	2.40		2.70	0.094		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



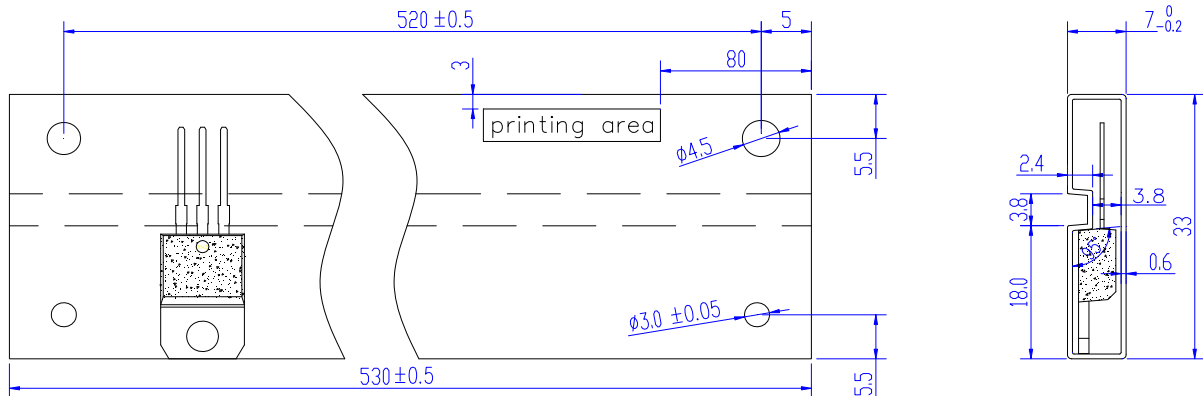
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



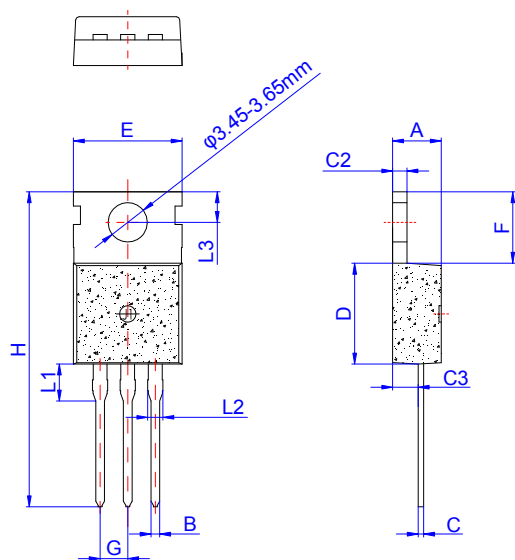
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G	2.40		2.70	0.094		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



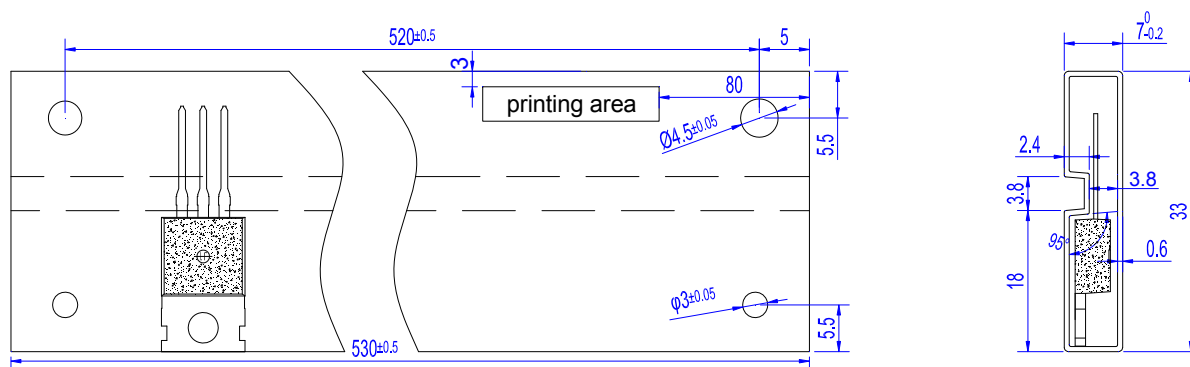
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TO-220B	TUBE	50	1,000	5,000

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

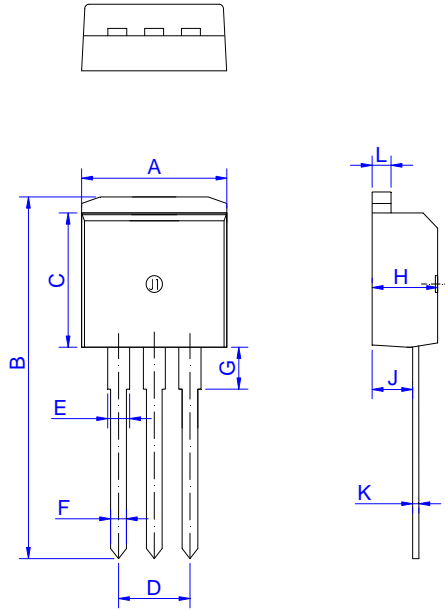
DELIVERY MODE



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

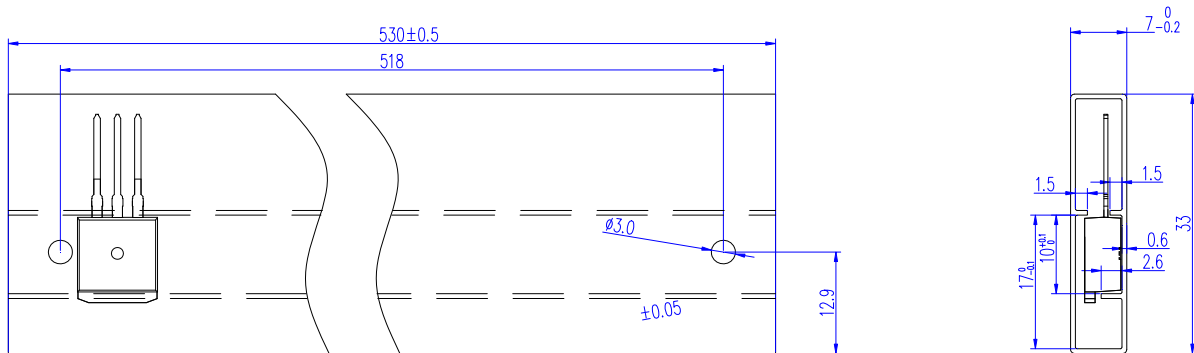


PACKAGE MECHANICAL DATA



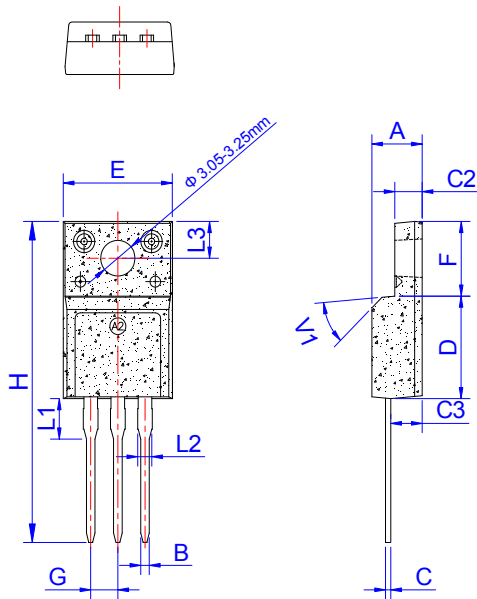
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.95		10.20	0.392		0.402
B	23.85		24.05	0.939		0.947
C	9.40		9.60	0.370		0.378
D	5.00		5.20	0.197		0.205
E	1.35		1.40	0.053		0.055
F	0.80		0.85	0.031		0.033
G	2.70		3.40	0.106		0.134
H	4.45		4.55	0.175		0.179
J	2.30		2.50	0.091		0.098
K	0.48		0.52	0.019		0.020
L	1.30		1.35	0.051		0.053

DELIVERY MODE



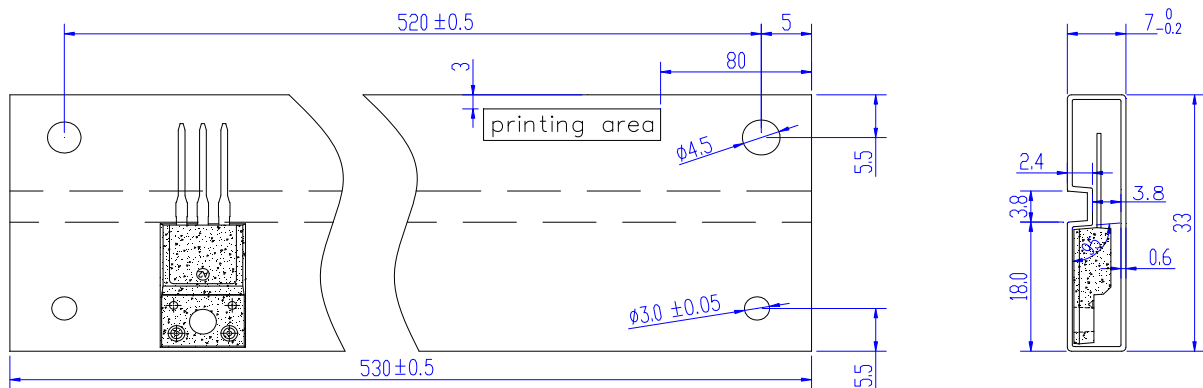
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-262	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
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			0.045	
L3		3.30			0.130	
V1		45°			45°	


DELIVERY MODE



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



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