

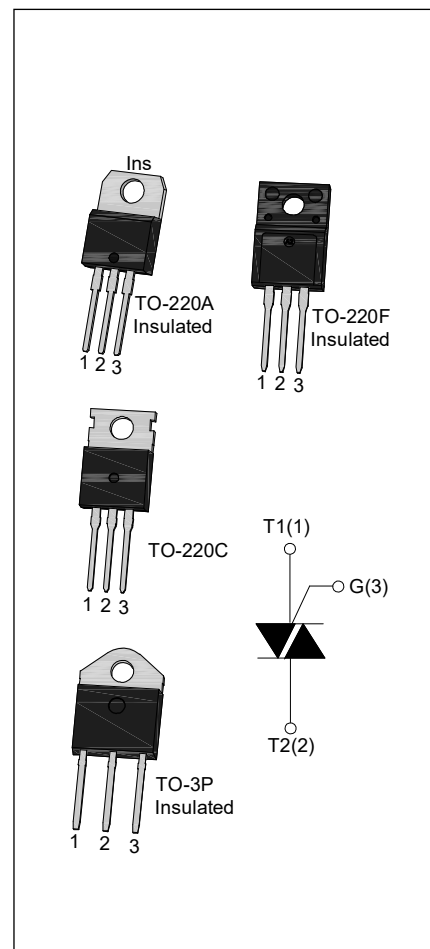


DESCRIPTION:

T25xxH series triacs, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. With high commutation performances, 3 quadrants products especially recommended for use on inductive load. From all three terminals to external heatsink, T25xxH-xxA provides a rated insulation voltage of 2500 V_{RMS}, and T25xxH-xxF provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards. (File ref: E252906). All the packages above are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
T _j	150	°C
I _{T(RMS)}	25	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	-40-150	°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) (T _c =95°C)	I _{T(RMS)}	25	A
	TO-220C (T _c =110°C)			
	TO-3P (T _c =120°C)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I _{TSM}	250	A	

I ² t value for fusing (tp=10ms)	I ² t	310	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}	10	W
Peak pulse voltage (T _j =25°C; non-repetitive, off-state; FIG.7)	V _{pp}	1.7	kV

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				T2535H	T2550H	
I _{GT}	V _D =12V R _L =33Ω	I - II -III	MAX	35	50	mA
V _{GT}		I - II -III	MAX	1.3		V
V _{GD}	V _D =V _{DRM} T _j =150°C R _L =3.3KΩ	I - II -III	MIN	0.2		V
I _L	I _G =1.2I _{GT}	I -III	MAX	50	70	mA
		II		60	80	
I _H	I _T =100mA		MAX	40	50	mA
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =150°C		MIN	1000	1500	V/μs
t _{on}	I _G =40mA I _A =200mA I _R =20mA T _j =25°C		MAX	5	5	μs
t _{off}			MAX	30	50	μs

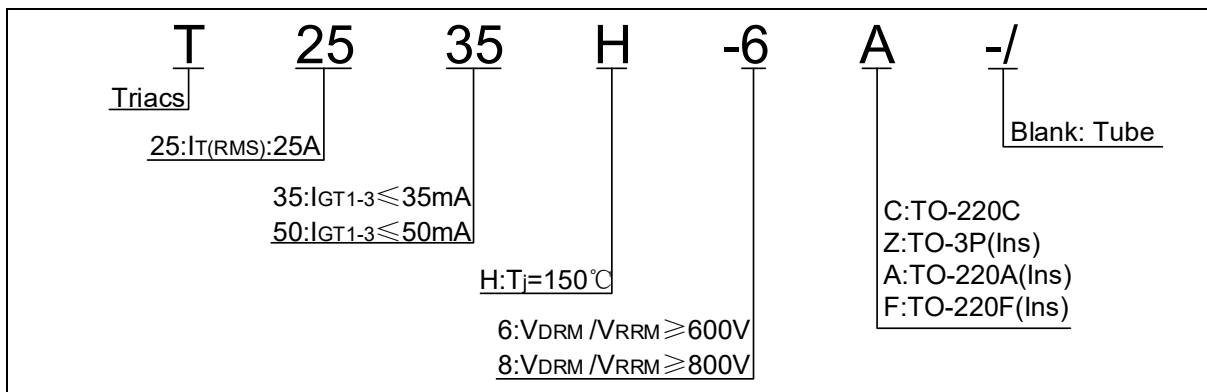
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V _{TM}	I _{TM} =35A tp=380μs	T _j =25°C	1.5	V
V _{TO}	Threshold voltage	T _j =150°C	0.9	V
R _d	Dynamic resistance	T _j =150°C	12.6	mΩ
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	5	μA
I _R RM		T _j =150°C	3	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	junction to case(AC)	TO-220A(Ins)/ TO-220F(Ins)	1.7
		TO-220C	1.25
		TO-3P(Ins)	0.93

ORDERING INFORMATION



MARKING

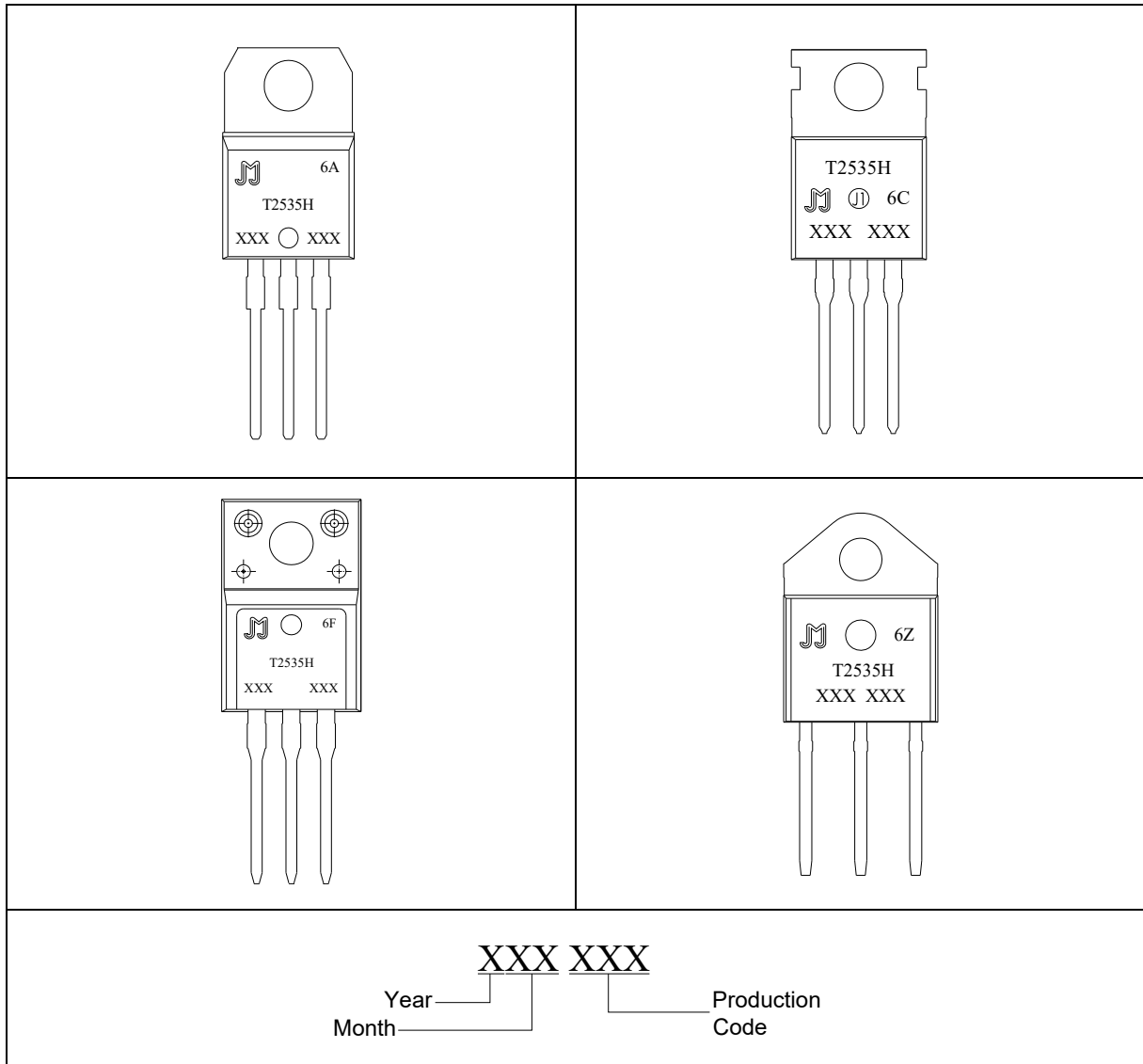


FIG.1: Maximum power dissipation versus RMS on-state current

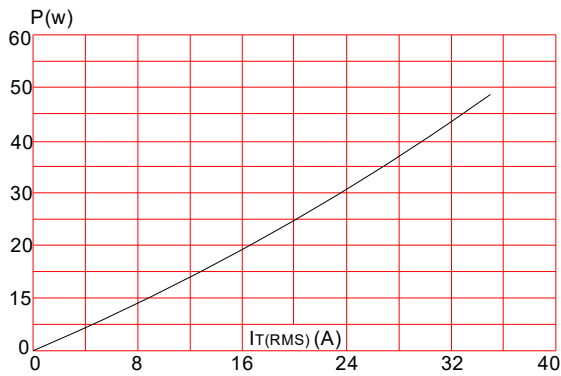


FIG.3: Surge peak on-state current versus number of cycles

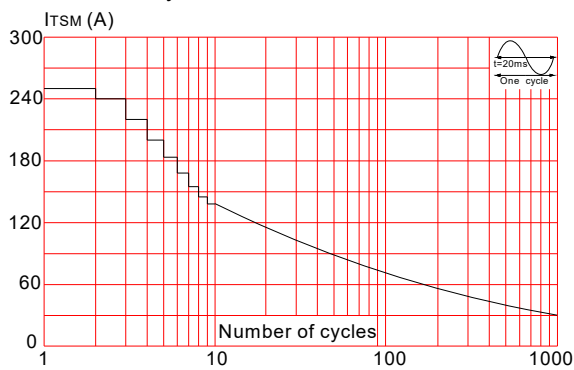


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

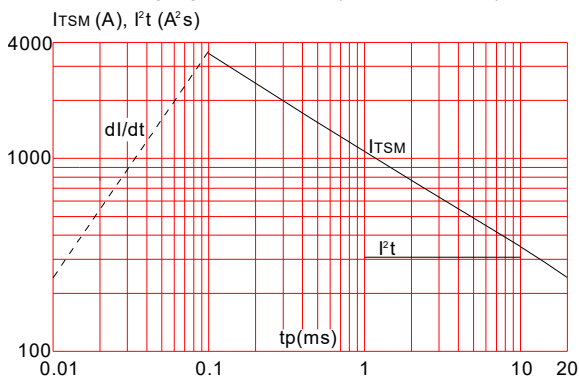


FIG.2: RMS on-state current versus case temperature

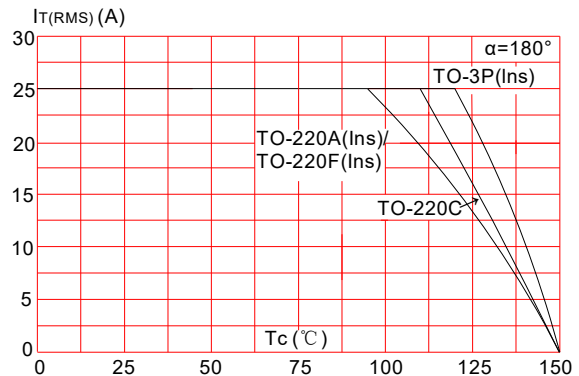


FIG.4: On-state characteristics (maximum values)

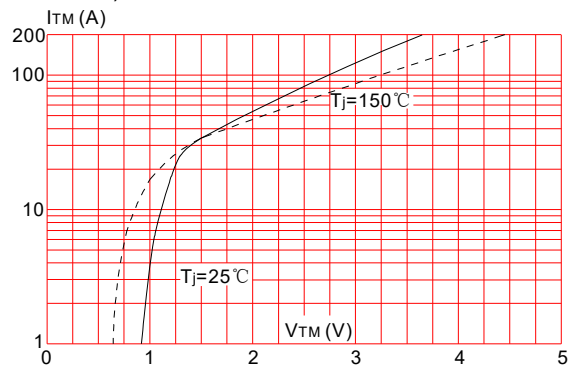


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

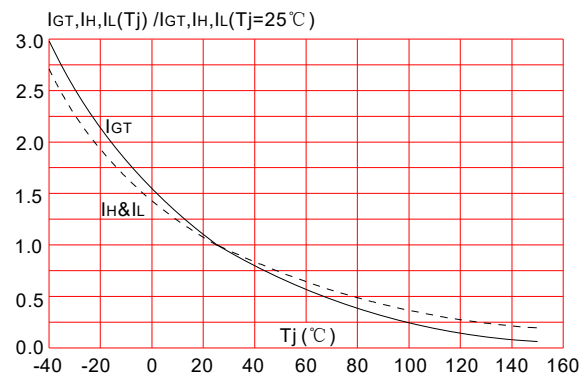
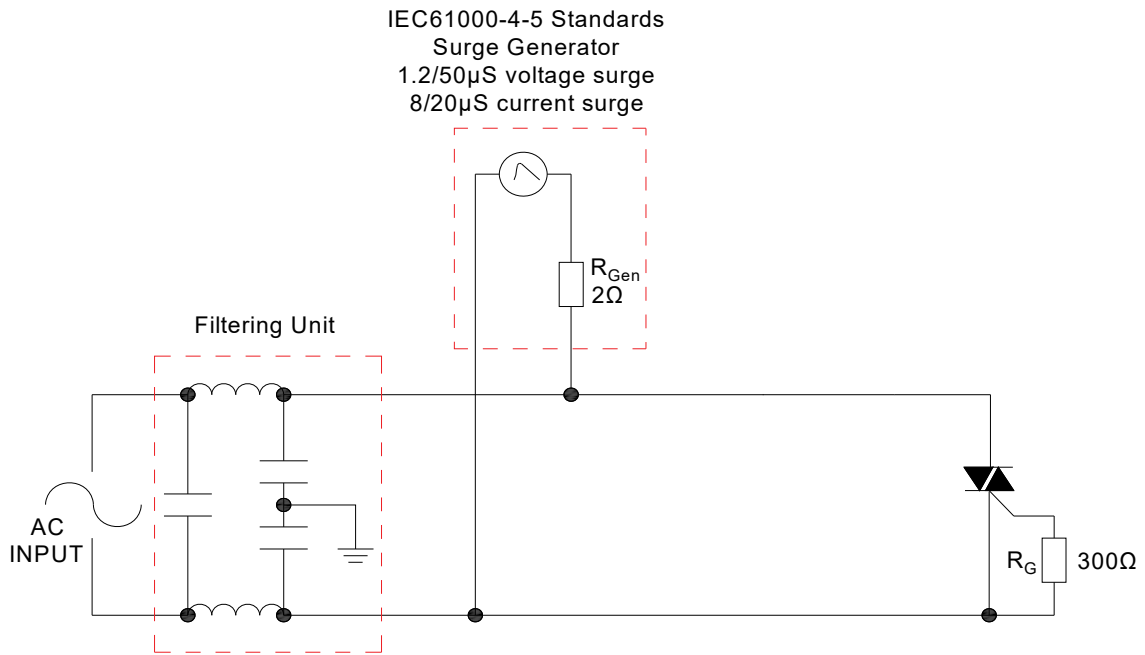


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



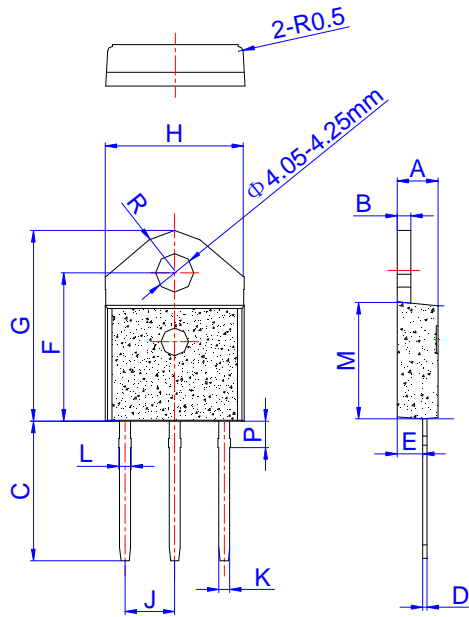
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode	
T2535H-6(8)A	600/800	35	TO-220A(Ins)	50	Tube	
T2535H-6(8)C			TO-220C			
T2535H-6(8)F			TO-220F(Ins)			
T2535H-6(8)Z			TO-3P			30
T2550H-6(8)A		50	50	TO-220A(Ins)	50	Tube
T2550H-6(8)C				TO-220C		
T2550H-6(8)F				TO-220F(Ins)		
T2550H-6(8)Z				TO-3P		

Document Revision History

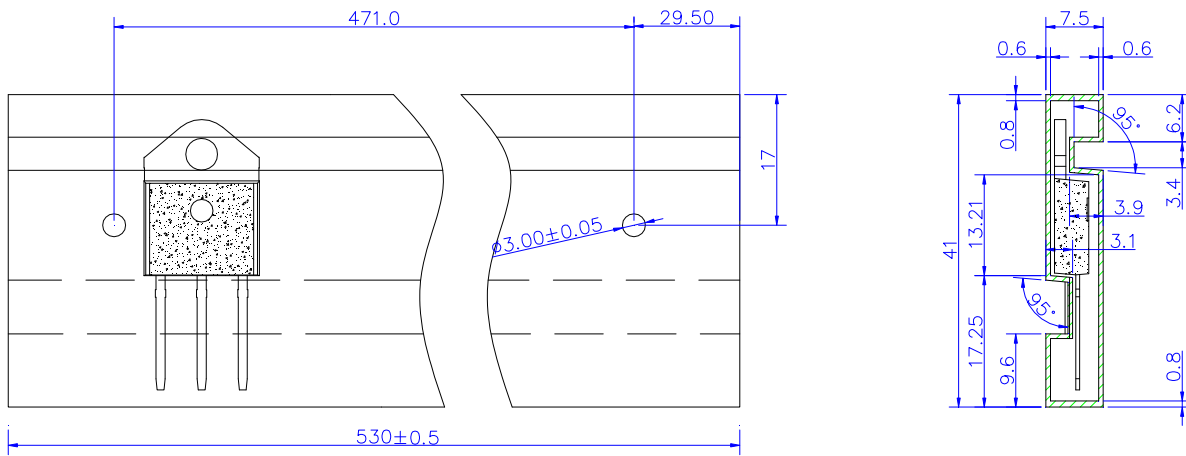
Date	Revision	Changes
Jun 20, 2021	1	Last update
Aug 5, 2021	2	Add T2550H
Jun 22, 2022	3	Add Vpp & t _{on} & t _{off} & VTO & Rd & Delete Package TO-220B

PACKAGE MECHANICAL DATA



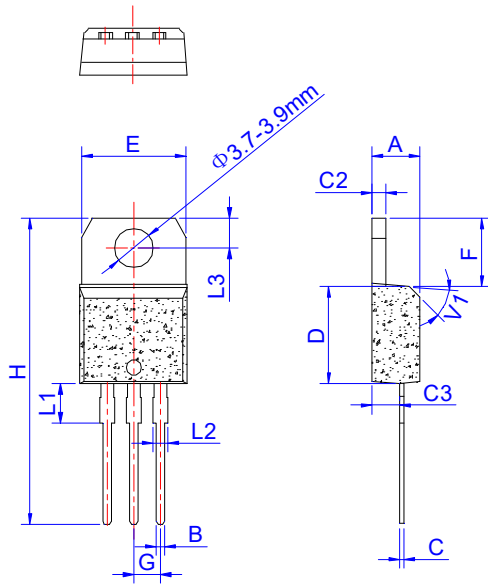
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.25		1.45	0.049		0.057
M	12.37		12.77	0.487		0.503
P	2.80		3.00	0.110		0.118
R		4.35			0.171	

DELIVERY MODE



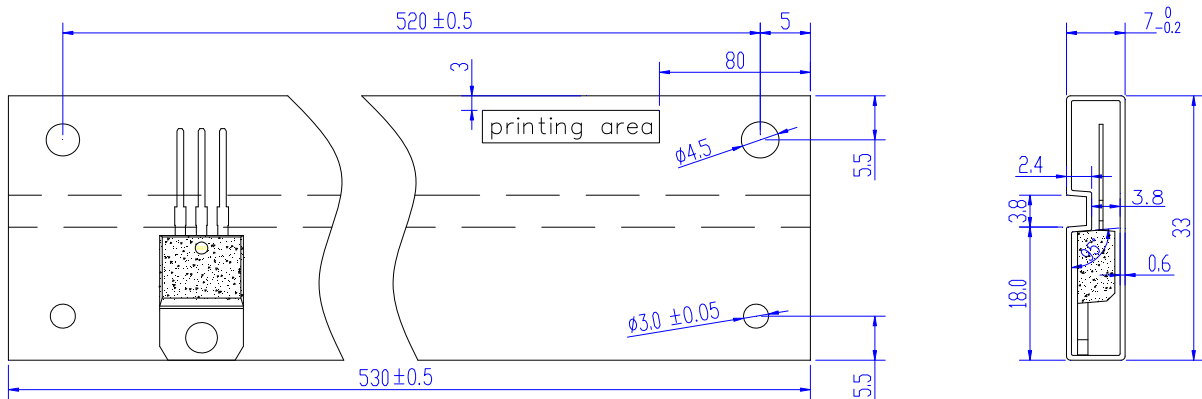
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-3P	TUBE	30	450	2,250

PACKAGE MECHANICAL DATA



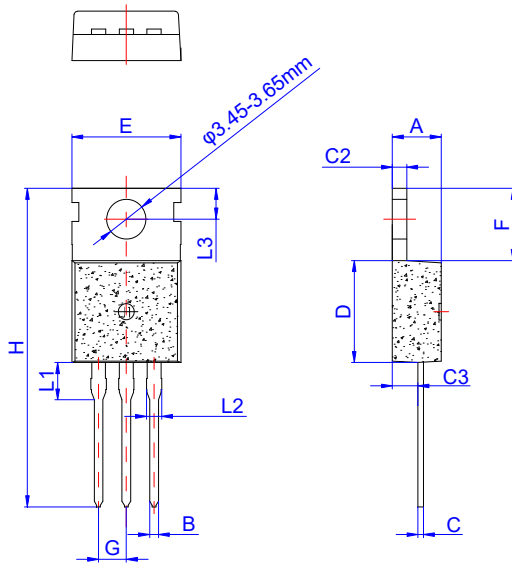
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.25		6.85	0.246		0.270
G	2.40		2.70	0.094		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



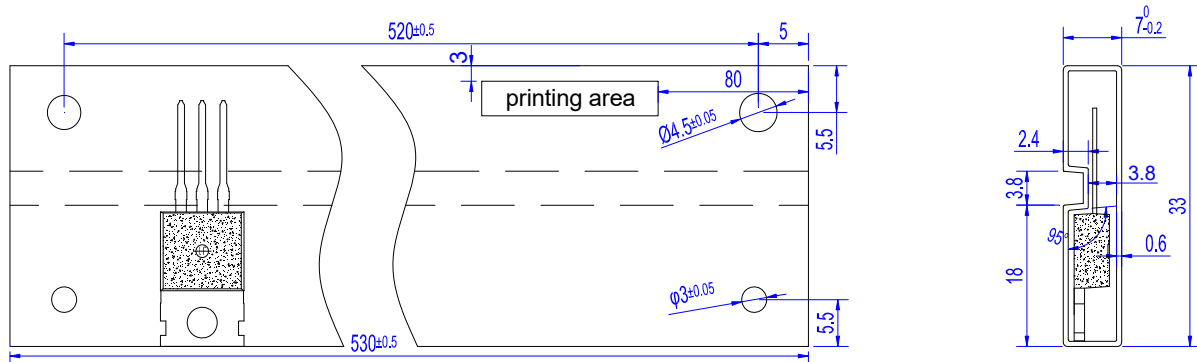
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



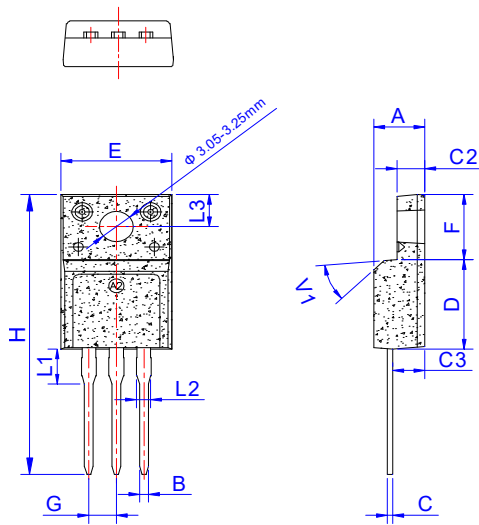
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.25		1.35	0.049		0.053
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G	2.40		2.70	0.094		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



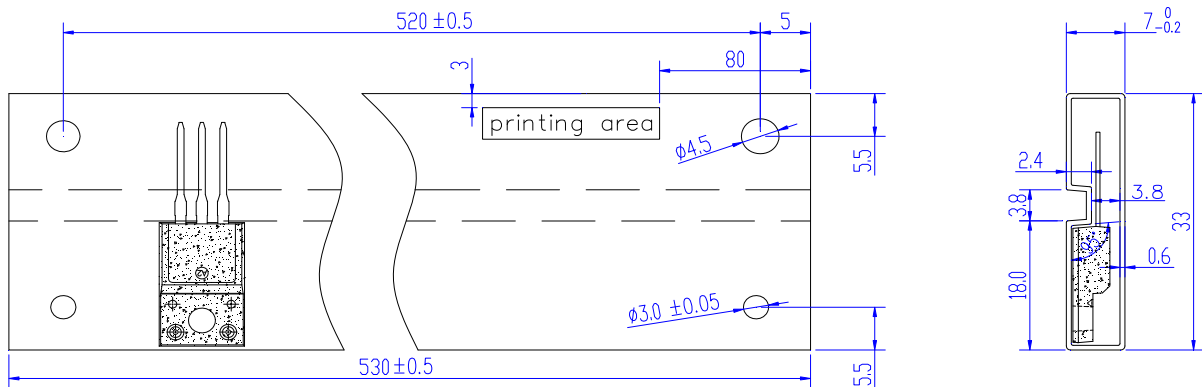
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220C	TUBE	50	1,000	5,000

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	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	3.20		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



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



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