

PS2501-1, PS2501-2, PS2501-4

ELECTRICAL CHARACTERISTICS (Ambient Temperature = 25°C unless otherwise specified)

INPUT

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$		1.2	1.4	V
Reverse Voltage	V_R	$I_R = 10\mu\text{A}$	6.0			V
Reverse Leakage	I_R	$V_R = 4\text{V}$			10	μA
Terminal Capacitance	C_t	$V = 0\text{V}, f = 1\text{KHz}$		30	250	pF

OUTPUT

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector—Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1\text{mA}, I_F = 0\text{mA}$	80			V
Emitter—Collector Breakdown Voltage	BV_{ECO}	$I_E = 100\mu\text{A}, I_F = 0\text{mA}$	6			V
Collector-Emitter Dark Current	I_{CEO}	$V_{CE} = 20\text{V}, I_F = 0\text{mA}$			100	nA

COUPLED

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Current transfer ratio	CTR	$I_F = 5\text{mA}, V_{CE} = 5\text{V}$	80		600	%
		Optional CTR Grades				
		GR L (PS2501-1 only)	100 200		300 400	
Collector—Emitter Saturation Voltage	$V_{CE(sat)}$	$I_F = 10\text{mA}, I_C = 2\text{mA}$			0.3	V
Input to Output Isolation Voltage	V_{ISO}	AC 1 minute, RH = 40 to 60% Note 1	5300			V_{RMS}
Input to Output Isolation Resistance	R_{ISO}	$V_{IO} = 500\text{V}$ Note 1	5×10^{10}			Ω
Output Rise Time	t_r	$V_{CE} = 2\text{V}, I_C = 2\text{mA}, R_L = 100\Omega$		4	18	μs
Output Fall Time	t_f	$V_{CE} = 2\text{V}, I_C = 2\text{mA}, R_L = 100\Omega$		3	18	μs

Note 1 : Measure with input leads shorted together and output leads shorted together.



PS2501-1, PS2501-2, PS2501-4

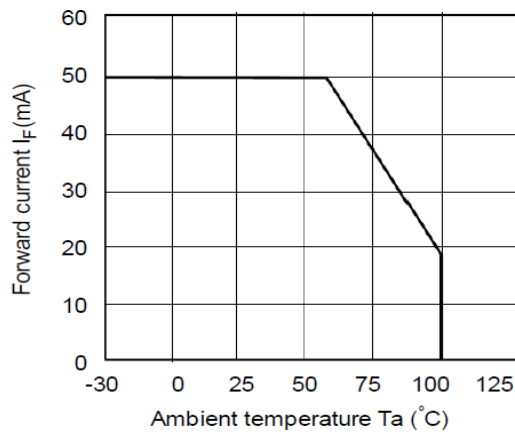


Fig 1 Forward Current vs T_A

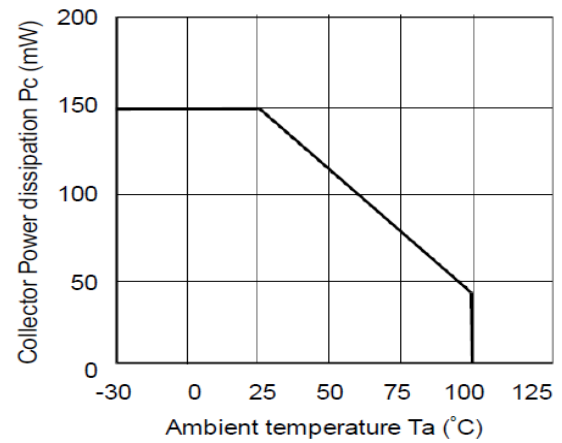


Fig 2 Collector Power Dissipation vs T_A

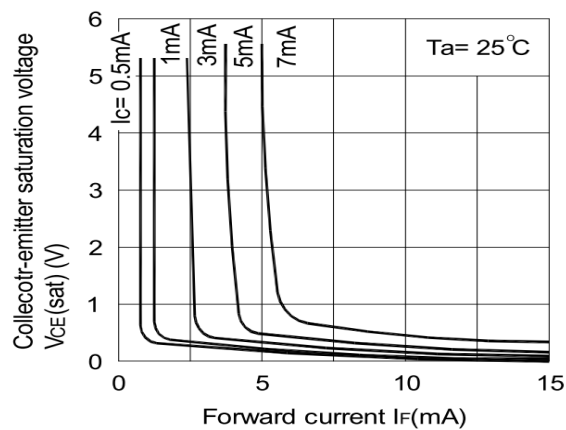


Fig 3 Collector-emitter Saturation Voltage vs Forward Current

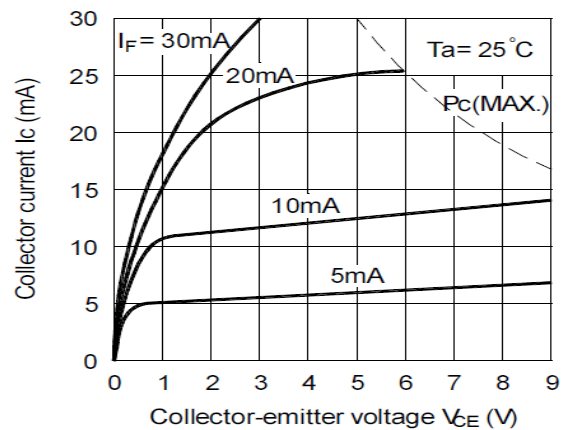


Fig 4 Collector Current vs Collector-emitter Voltage

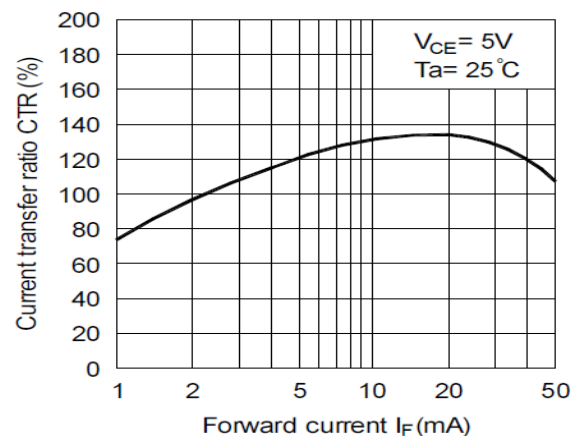


Fig 5 Current Transfer Ratio vs Forward Current

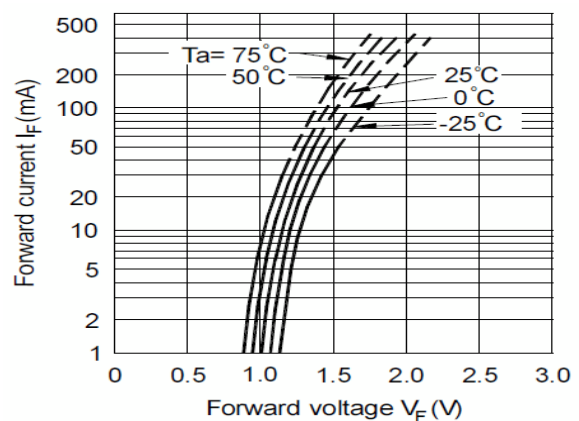


Fig 6 Forward Current vs Forward Voltage



PS2501-1, PS2501-2, PS2501-4

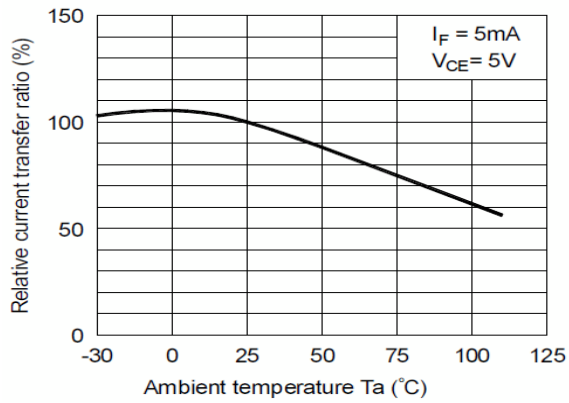


Fig 7 Relative CTR vs T_A

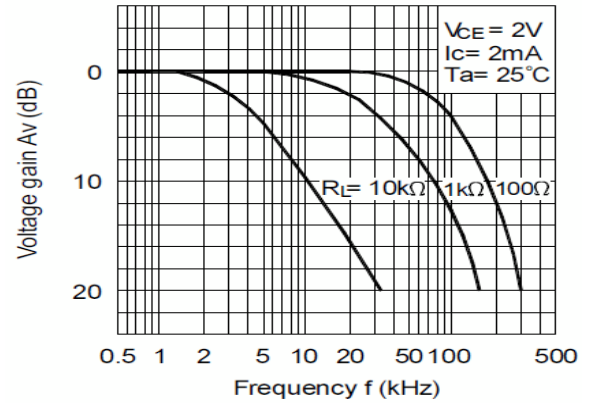


Fig 8 Frequency Response

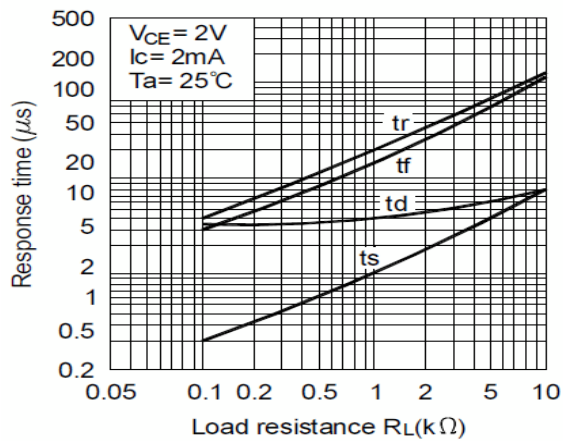
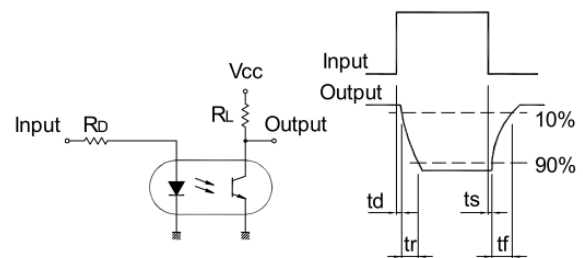


Fig 9 Response Time vs Load Resistance



Response Time Test Circuit



PS2501-1, PS2501-2, PS2501-4

ORDER INFORMATION

PS2501-1 (UL Approval)			
After PN	PN	Description	Packing quantity
None	PS2501-1, PS2501-1GR, PS2501-1L	Standard DIP4	100 pcs per tube
G	PS2501-1G, PS2501-1GRG, PS2501-1LG	10mm Lead Spacing	100 pcs per tube
SM	PS2501-1SM, PS2501-1GRSM, PS2501-1LSM	Surface Mount	100 pcs per tube
SMT&R	PS2501-1SMT&R, PS2501-1GRSMT&R, PS2501-1LSMT&R	Surface Mount Tape & Reel	1000 pcs per reel

PS2501-2 (UL Approval)			
After PN	PN	Description	Packing quantity
None	PS2501-2, PS2501-2GR	Standard DIP8	50 pcs per tube
G	PS2501-2G, PS2501-2GRG	10mm Lead Spacing	50 pcs per tube
SM	PS2501-2SM, PS2501-2GRSM	Surface Mount	50 pcs per tube
SMT&R	PS2501-2SMT&R, PS2501-2GRSMT&R,	Surface Mount Tape & Reel	1000 pcs per reel

PS2501-4 (UL Approval)			
After PN	PN	Description	Packing quantity
None	PS2501-4, PS2501-4GR	Standard DIP16	25 pcs per tube
G	PS2501-4G, PS2501-4GRG	10mm Lead Spacing	25 pcs per tube
SM	PS2501-4SM, PS2501-4GRSM	Surface Mount	25 pcs per tube

CTR grade "L" available only for PS2501-1.



PS2501-1, PS2501-2, PS2501-4

ORDER INFORMATION

PS2501-1X (UL and VDE Approvals)			
After PN	PN	Description	Packing quantity
None	PS2501-1X, PS2501-1XGR, PS2501-1XL	Standard DIP4	100 pcs per tube
G	PS2501-1XG, PS2501-1XGRG, PS2501-1XLG	10mm Lead Spacing	100 pcs per tube
SM	PS2501-1XSM, PS2501-1XGRSM, PS2501-1XLSM	Surface Mount	100 pcs per tube
SMT&R	PS2501-1XSMT&R, PS2501-1XGRSMT&R, PS2501-1XLSMT&R	Surface Mount Tape & Reel	1000 pcs per reel

PS2501-2X (UL and VDE Approvals)			
After PN	PN	Description	Packing quantity
None	PS2501-2X, PS2501-2XGR	Standard DIP8	50 pcs per tube
G	PS2501-2XG, PS2501-2XGRG	10mm Lead Spacing	50 pcs per tube
SM	PS2501-2XSM, PS2501-2XGRSM,	Surface Mount	50 pcs per tube
SMT&R	PS2501-2XSMT&R, PS2501-2XGRSMT&R	Surface Mount Tape & Reel	1000 pcs per reel

PS2501-4X (UL and VDE Approvals)			
After PN	PN	Description	Packing quantity
None	PS2501-4X, PS2501-4XGR,	Standard DIP16	25 pcs per tube
G	PS2501-4XG, PS2501-4XGRG	10mm Lead Spacing	25 pcs per tube
SM	PS2501-4XSM, PS2501-4XGRSM	Surface Mount	25 pcs per tube

CTR grade "L" available only for PS2501-1.



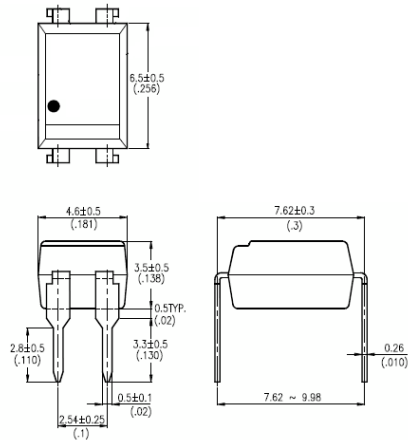
ISOCOM
COMPONENTS

PS2501-1, PS2501-2, PS2501-4

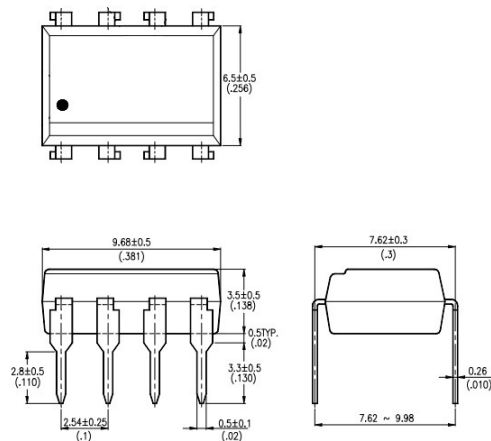
PACKAGE DIMENSIONS in mm (inch)

DIP

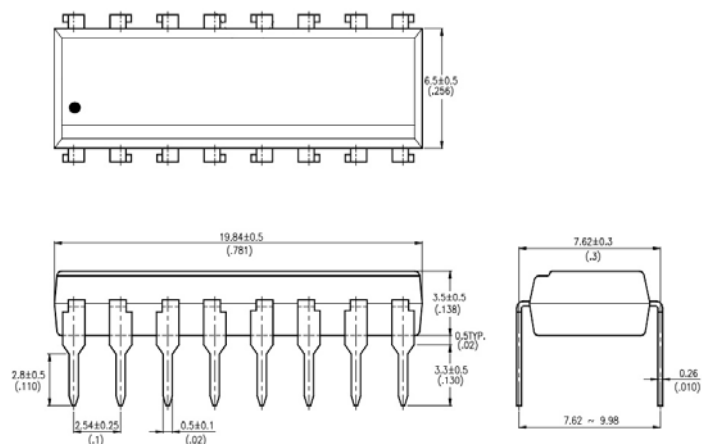
PS2501-1



PS2501-2



PS2501-4





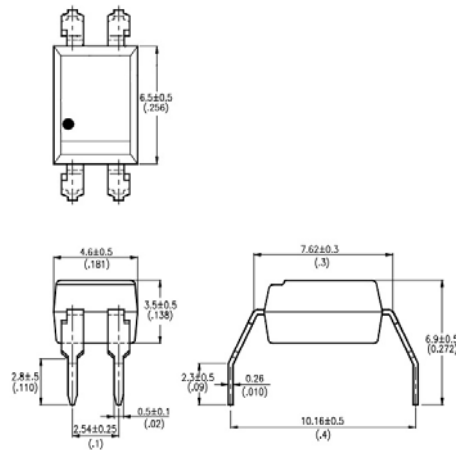
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COMPONENTS

PS2501-1, PS2501-2, PS2501-4

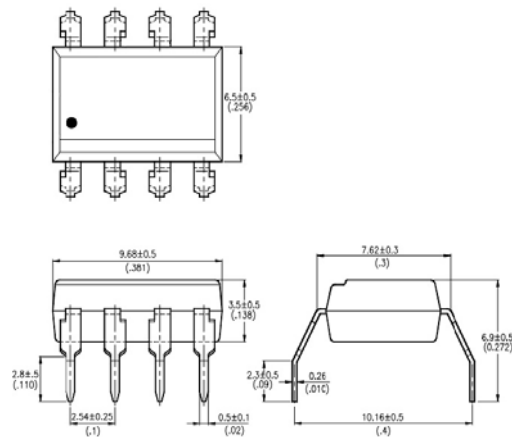
PACKAGE DIMENSIONS in mm (inch)

G Form

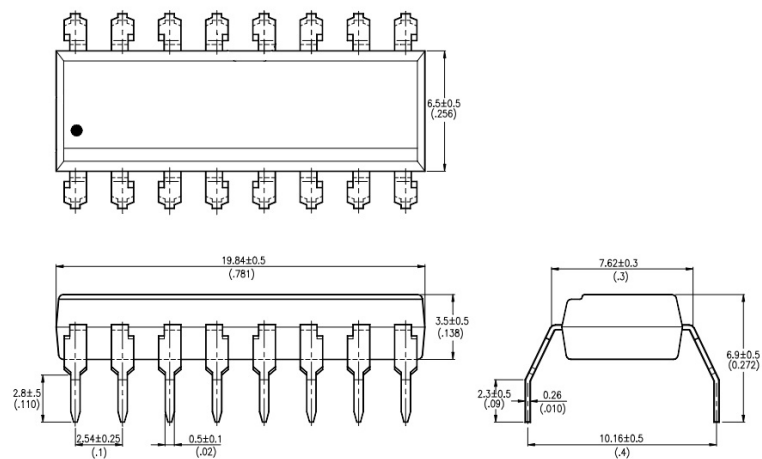
PS2501-1G



PS2501-2G



PS2501-4G



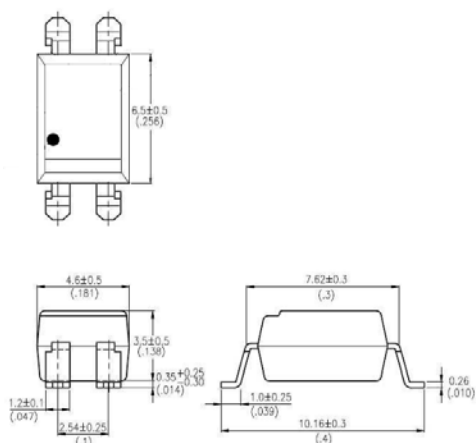


PS2501-1, PS2501-2, PS2501-4

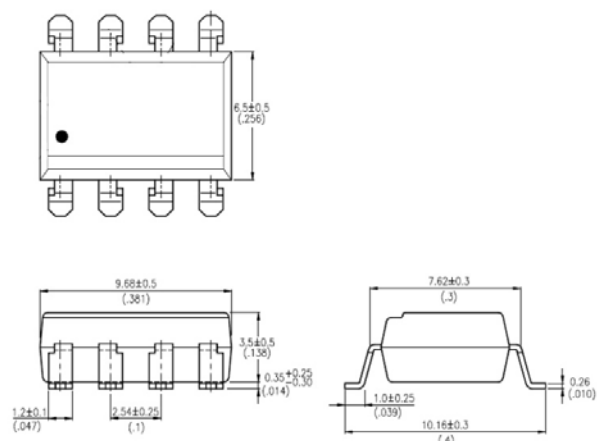
PACKAGE DIMENSIONS in mm (inch)

SMD

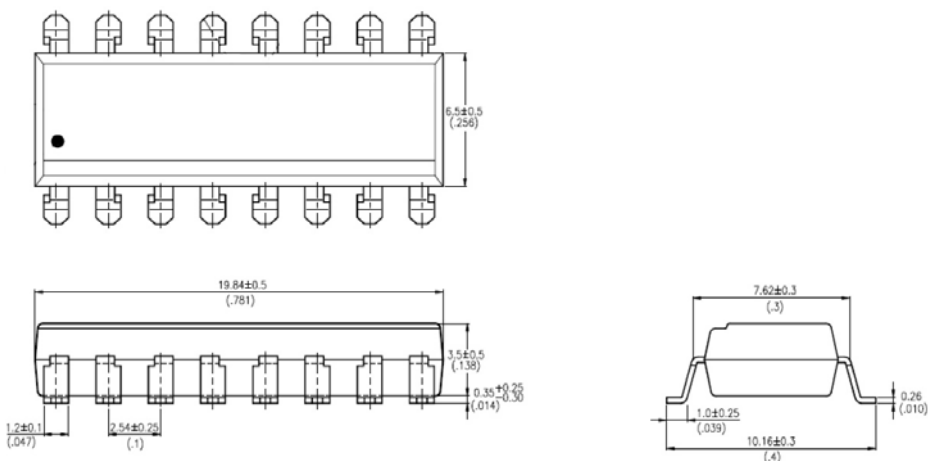
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PS2501-4SM

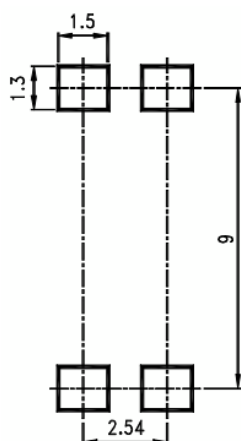




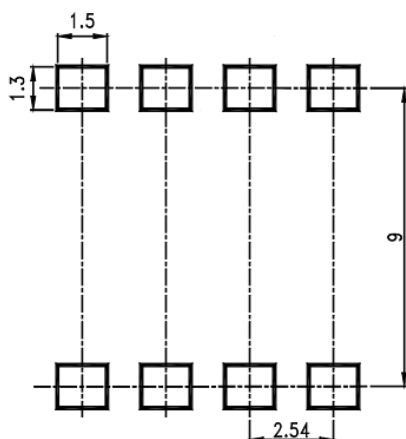
PS2501-1, PS2501-2, PS2501-4

RECOMMENDED PAD LAYOUT FOR SMD (mm)

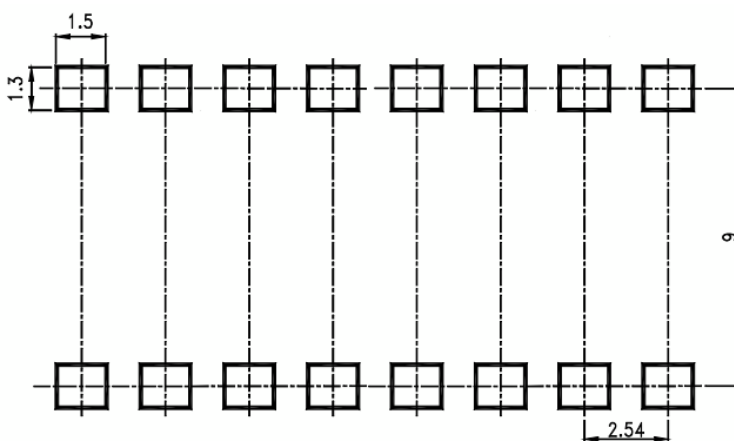
PS2501-1SM



PS2501-2SM



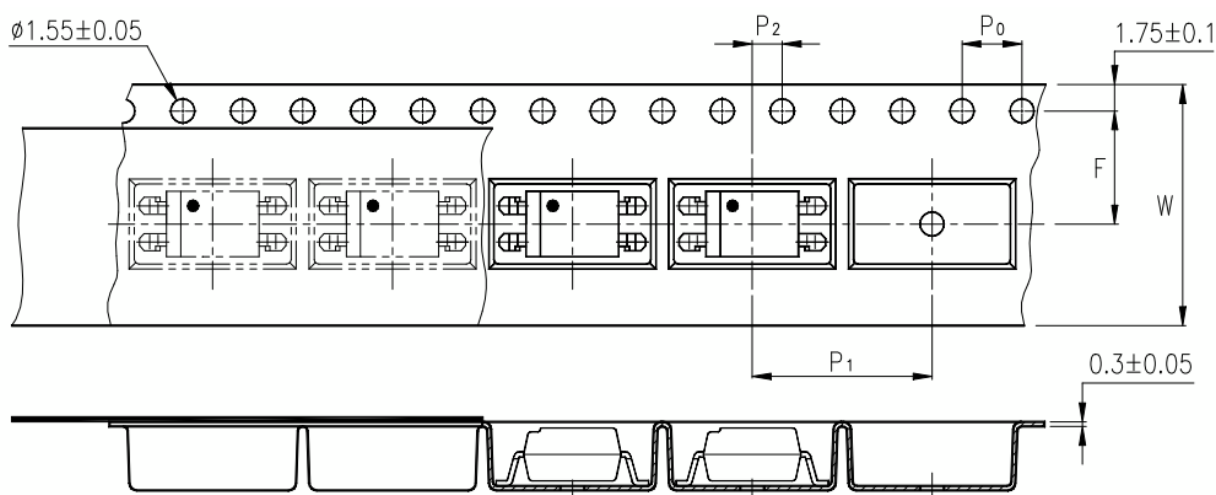
PS2501-4SM



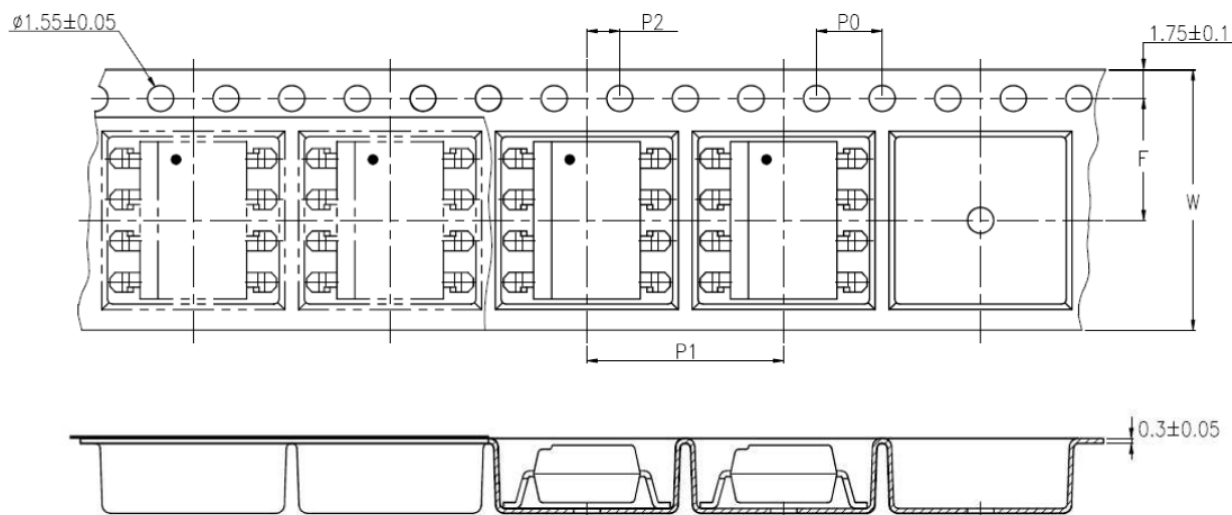


PS2501-1, PS2501-2, PS2501-4

TAPE AND REEL PACKAGING



PS2501-1SMT&R



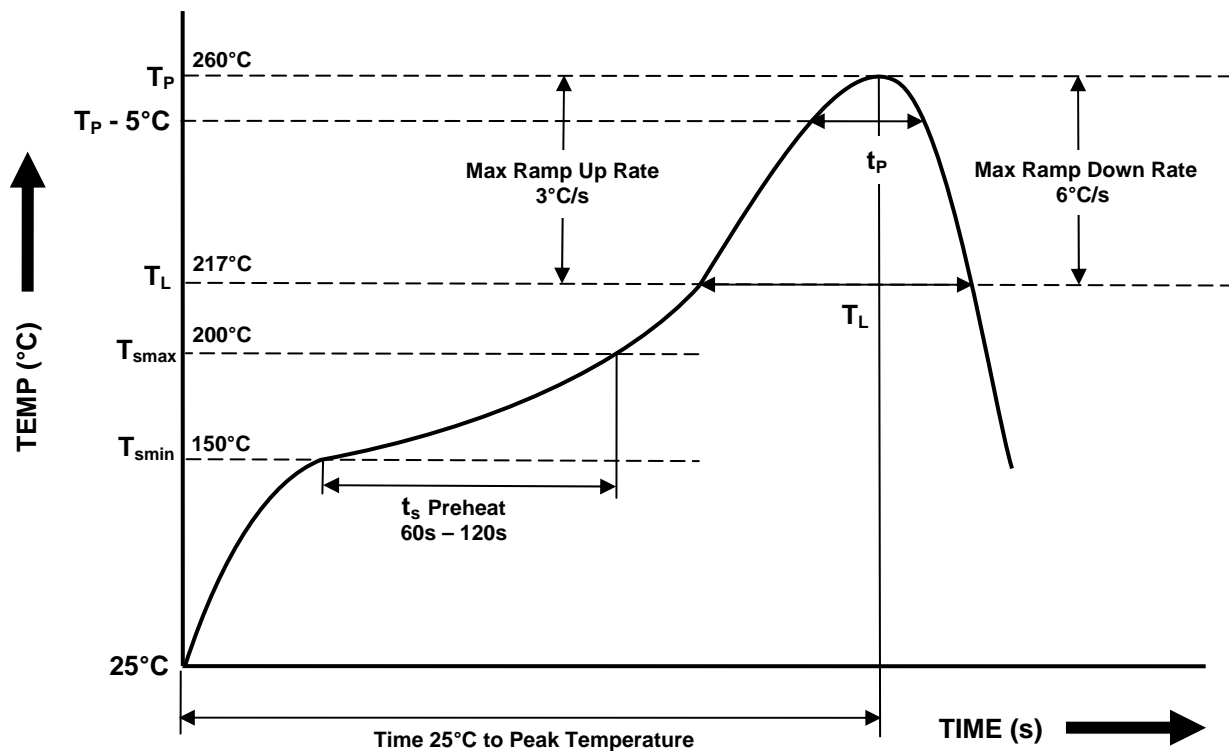
PS2501-2SMT&R

Description	Symbol	Dimensions in mm (inches)
Tape wide	W	16 ± 0.3 (.63)
Pitch of sprocket holes	P_0	4 ± 0.1 (.15)
Distance of compartment	F	7.5 ± 0.1 (.295)
Distance of compartment to compartment	P_2	2 ± 0.1 (.079)
Distance of compartment to compartment	P_1	12 ± 0.1 (.472)



PS2501-1, PS2501-2, PS2501-4

IR REFLOW SOLDERING TEMPERATURE PROFILE FOR SMD (One Time Reflow Soldering is Recommended)



Profile Details	Conditions
Preheat <ul style="list-style-type: none">- Min Temperature (T_{SMIN})- Max Temperature (T_{SMAX})- Time T_{SMIN} to T_{SMAX} (t_s)	150°C 200°C 60s - 120s
Soldering Zone <ul style="list-style-type: none">- Peak Temperature (T_P)- Time at Peak Temperature- Liquidous Temperature (T_L)- Time within 5°C of Actual Peak Temperature ($T_P - 5^\circ\text{C}$)- Time maintained above T_L (t_L)- Ramp Up Rate (T_L to T_P)- Ramp Down Rate (T_P to T_L)	260°C 10s max 217°C 30s max 60s - 100s 3°C/s max 6°C/s max
Average Ramp Up Rate (T_{smax} to T_P)	3°C/s max
Time 25°C to Peak Temperature	8 minutes max

PS2501-1, PS2501-2, PS2501-4

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- Do not immerse device body in solder paste.



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