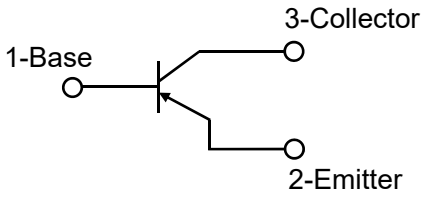
Prisemi®

PPT3FD3906

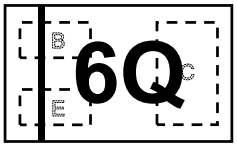
PNP Transistor

Feature

- This device is Pb-Free, Halogen Free/BFR Free and Rohs compliant.



Circuit Diagram



Marking (Top View)

Mechanical Characteristics

- DFN1006-3L without plating
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements

Absolute maximum rating@25℃

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current -Continuous	I_C	-200	mA
Collector Dissipation	P_C	100	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	1250	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics per line@25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = 10μA , I_E = 0	-40	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1mA , I_B = 0	-40	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = 10μA , I_C = 0	-5	-	-	V
Collector cut-off current	I_{CEX}	V_{CE} = -30V , $V_{BE(off)}$ = -3V	-	-	-50	nA
Emitter cut-off current	I_{EBO}	V_{EB} = -5V , I_C = 0	-	-	-100	nA
DC current gain	$h_{FE(1)}$	V_{CE} = -1V , I_C = -0.1mA	60	-	-	
	$h_{FE(2)}$	V_{CE} = -1V , I_C = -1mA	80	-	-	
	$h_{FE(3)}$	V_{CE} = -1V , I_C = -10mA	100	-	300	
	$h_{FE(4)}$	V_{CE} = -1V , I_C = -50mA	60	-	-	
	$h_{FE(5)}$	V_{CE} = -1V , I_C = -100mA	30	-	-	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C = -10mA , I_B = -1mA	-	-	-0.25	V
	$V_{CE(sat)2}$	I_C = -50mA , I_B = -5mA	-	-	-0.40	
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C = -10mA , I_B = -1mA	-0.65	-	-0.85	V
	$V_{BE(sat)2}$	I_C = -50mA , I_B = -5mA	-	-	-0.95	
Transition frequency	f_T	V_{CE} = -20V , I_C = -10mA , f = 100MHz	250	-	-	MHz
Collector output capacitance	C_{ob}	V_{CB} = -5V , I_E = 0 , f = 1MHz	-	-	4.5	pF
Base Input capacitance	C_{ib}	V_{EB} = -0.5V , I_E = 0 , f = 1MHz	-	-	10	pF
Noise figure	NF	V_{CE} = -5V , I_E = -0.1mA , f = 1kHz , R_G = 1kΩ	-	-	4	dB
Delay time	t_d	V_{CC} = -3V , $V_{BE(off)}$ = 0.5V , I_C = -10mA , I_{B1} = -1mA	-	-	35	ns
Rise time	t_r		-	-	35	ns
Storage time	t_s	V_{CC} = -3V , I_C = -10mA , I_{B1} = I_{B2} = -1mA	-	-	225	ns
Fall time	t_f		-	-	75	ns

Typical Characteristics

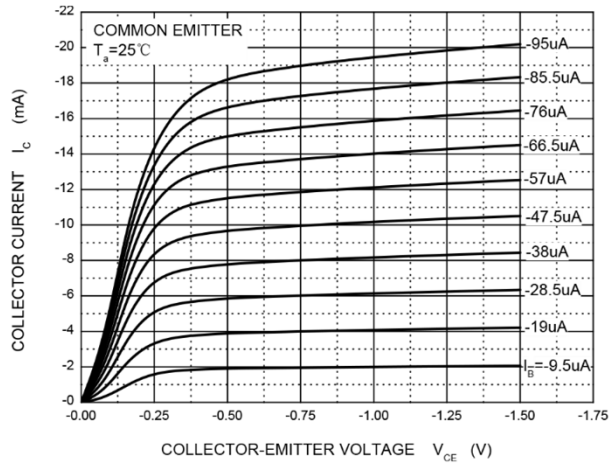


Fig 1. Static Characteristic

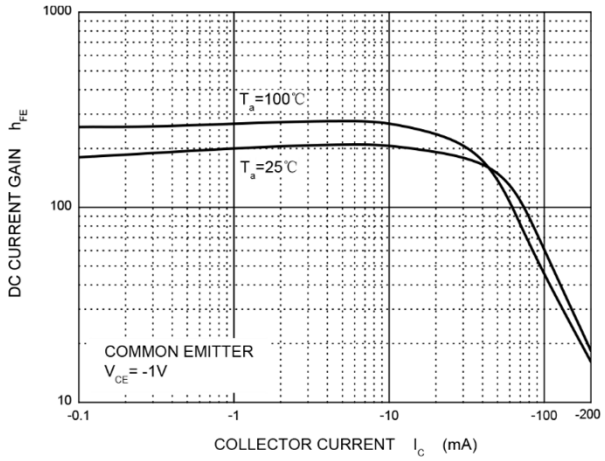


Fig 2. h_{FE} —— I_C

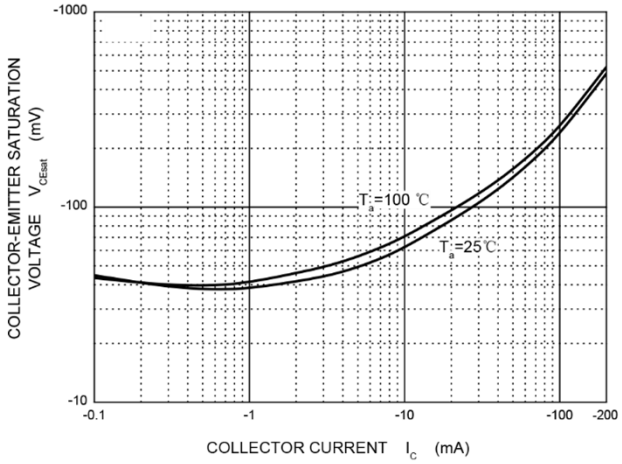


Fig 3. V_{CEsat} —— I_C

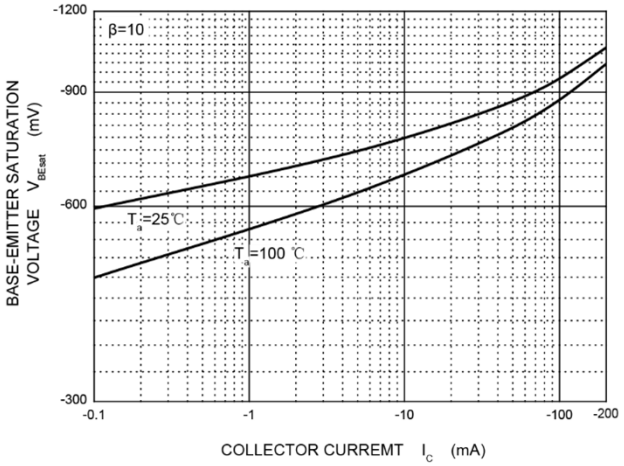


Fig 4. V_{BEsat} —— I_C

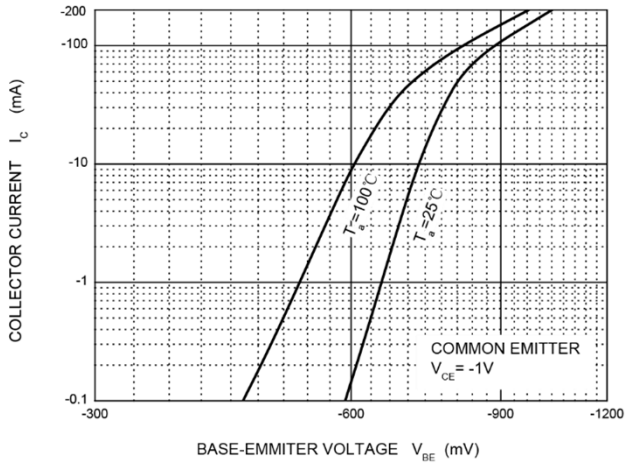


Fig 5. I_C —— V_{BE}

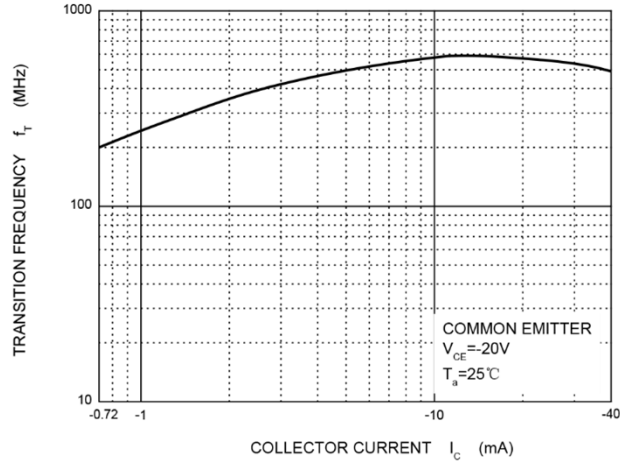


Fig 6. f_T —— I_C

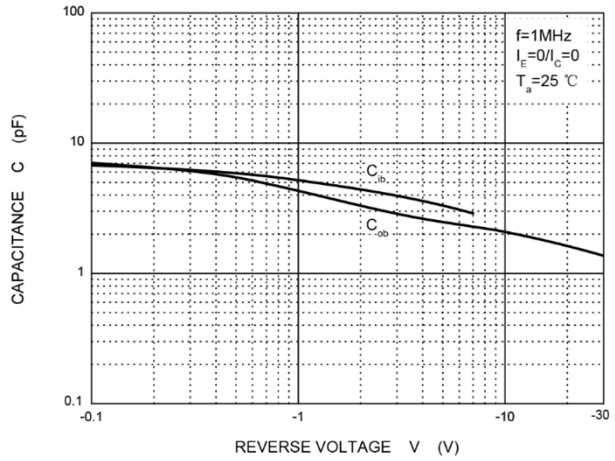


Fig 7. C_{ob}/C_{ib} —— V_{CB}/V_{EB}

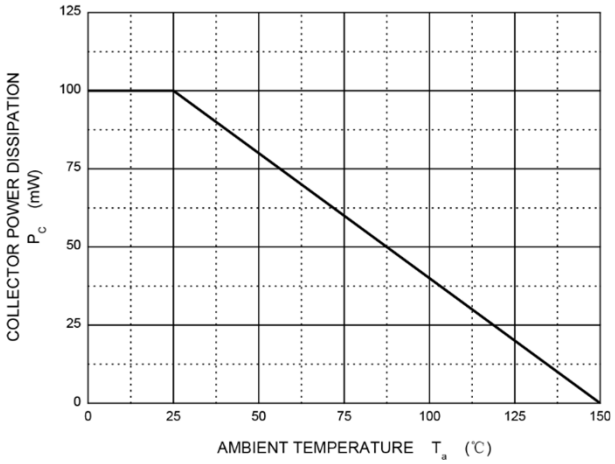
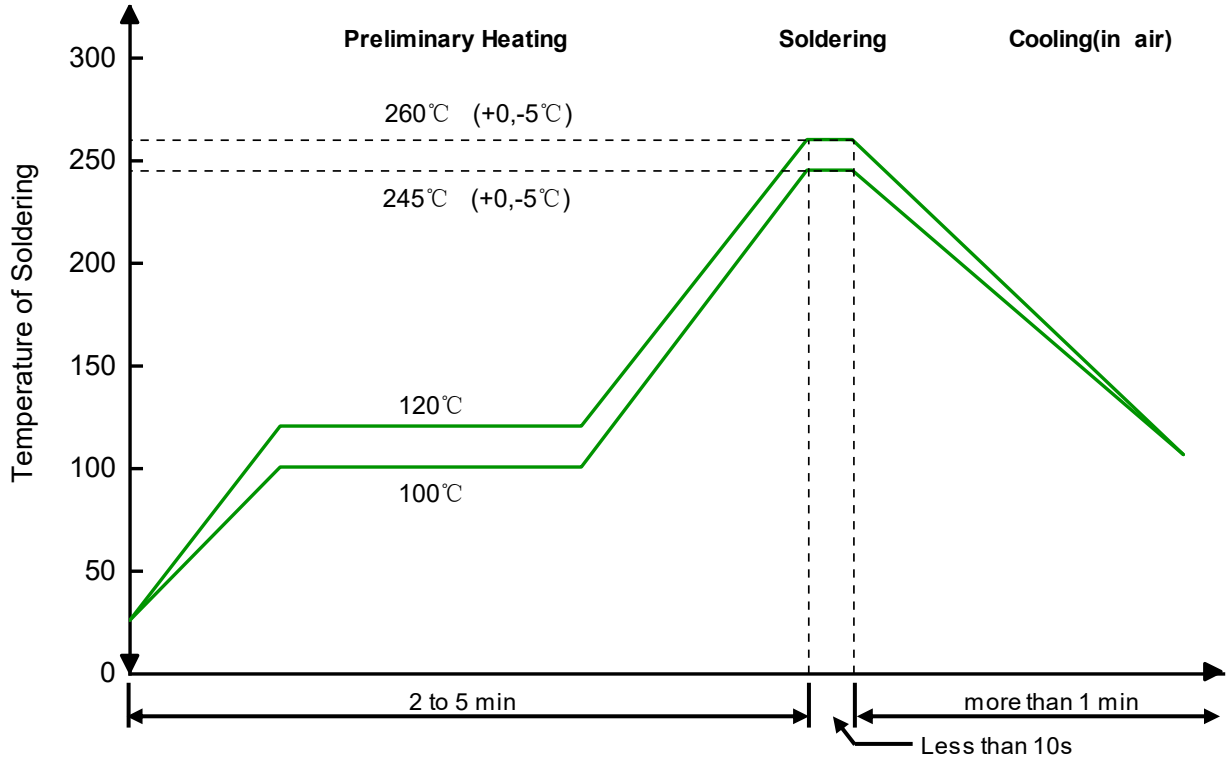


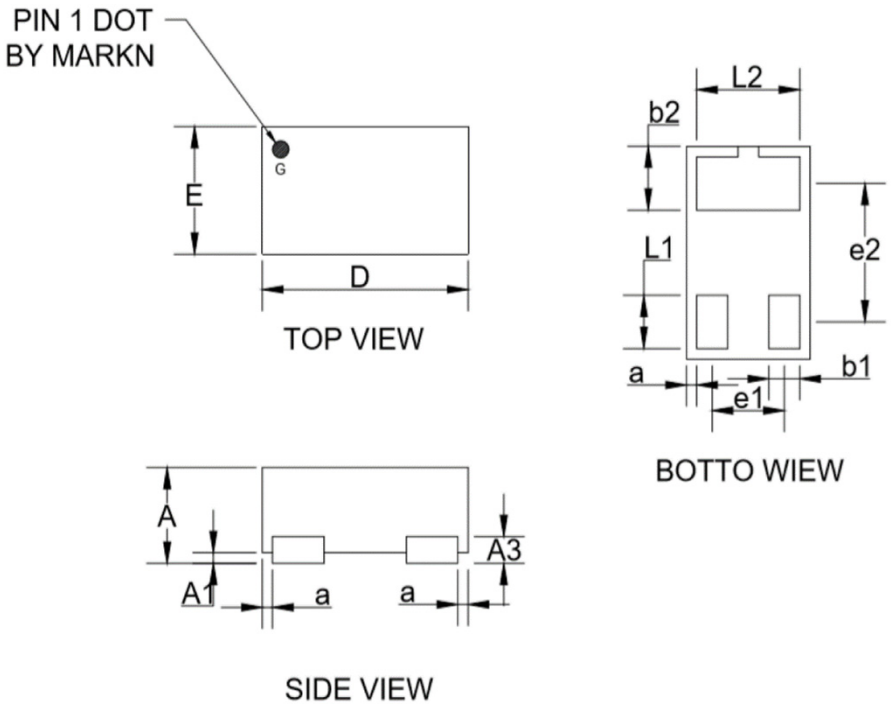
Fig 8. P_C —— T_a

Solder Reflow Recommendation

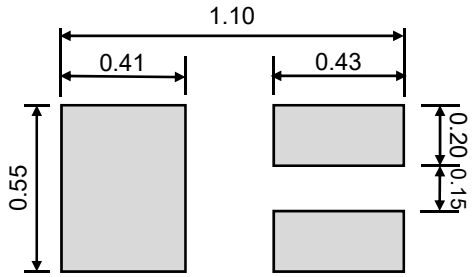


Remark: Pb free for 260℃; Pb for 245℃.

Product dimension (DFN1006-3L)



Dim	Millimeters		
	Min	Nom	Max
A	0.40	-	0.50
A1	0.00	-	0.05
A3	0.125 Ref.		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b1	0.10	0.15	0.20
b2	0.20	0.25	0.30
L1	0.20	0.25	0.30
L2	0.40	0.50	0.60
a	-	-	0.05
e1	0.35 BSC		
e2	0.65 BSC		

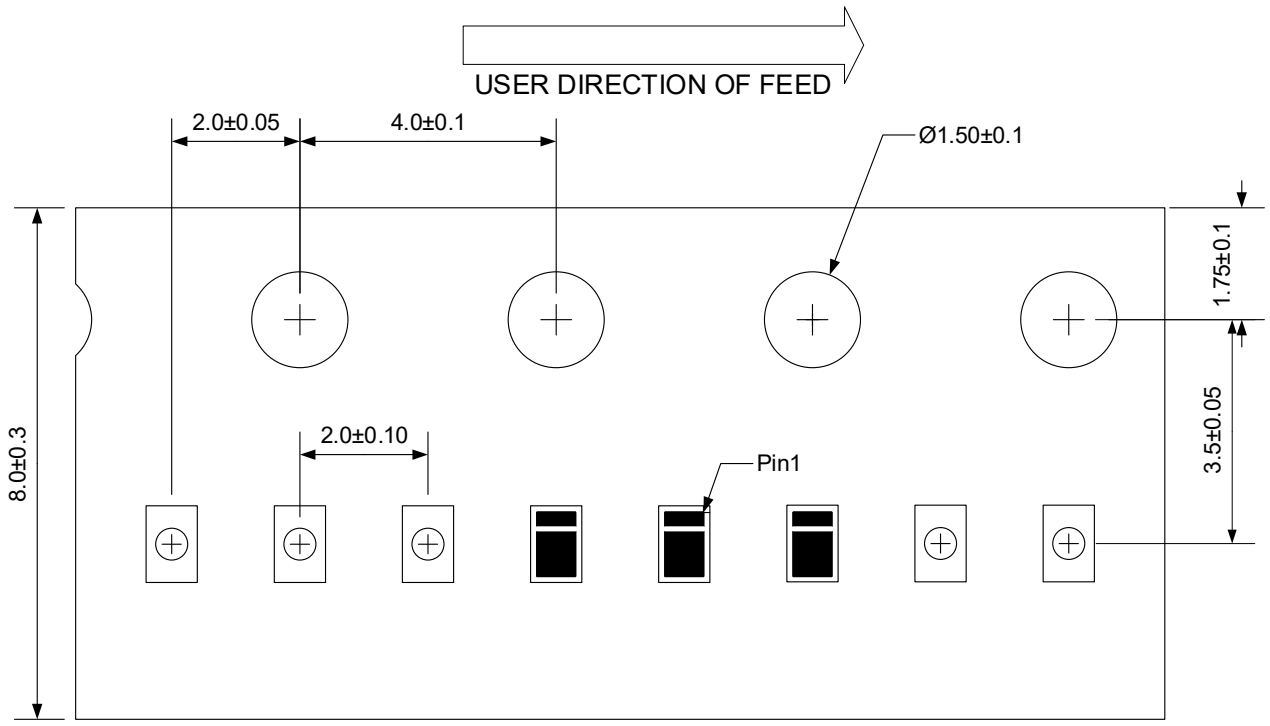


Suggested PCB Layout Unit: mm

Ordering information

Device	Package	Reel	Shipping
PPT3FD3906	DFN1006-3L (Pb-Free)	7"	10000 / Tape & Reel

Load with information



Unit:mm

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