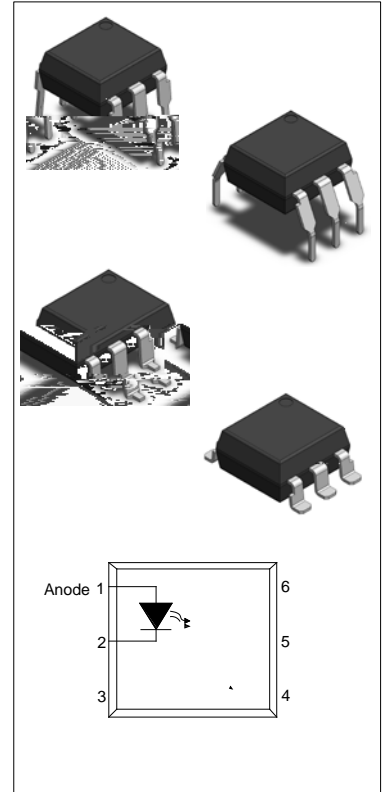




**DESCRIPTION:**

The CNY17F-X series combine an AlGaAs infrared emitting diode as the emitter which is optically coupled to a silicon planar phototransistor detector in a plastic DIP6 package with different lead forming options. The products are widely used in switch mode power supplies, programmable controllers, household appliances and office equipment.



**MAIN FEATURES**

- High isolation 5000 VRMS
- CTR flexibility available see order information
- DC input with transistor output
- Operating temperature range -55°C to 110°C
- REACH compliance
- Halogen free
- CQC approved
- VDE approved
- UL approved

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C)**

Parameter		Symbol	Value	Unit
Input	Forward current	$I_F$	60	mA
	Peak forward current	$I_{FP}$	1 <sup>7</sup>	A
	Reverse voltage	$V_R$	6	V
	Power dissipation	$P_D$	100	mW
Output	Collector-emitter Voltage	$V_{CEO}$	80	V
	Emitter-collector Voltage	$V_{ECO}$	7	V
	Collector current	$I_C$	50	mA
	Output power dissipation	$P_O$	150	mW
Total Power Dissipation		$P_{tot}$	250	mW
Isolation Voltage		$V_{iso}$	5000 <sup>“</sup>	Vrms
Operating Temperature		$T_{opr}$	-55~+110	
Storage Temperature		$T_{stg}$	-55~+150	

Soldering Temperature	$T_{sol}$	260	
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NOTE1: 100 s pulse, 100Hz frequency

NOTE2: AC for 1minute, R.H.=40~60%

### ELECTRICAL CHARACTERISTICS (Sample Temperature=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	$V_F$	$I_F=10mA$	-	1.27	1.4	V
			$I_F=20mA$	-	1.33	1.5	
	Reverse Current	$I_R$	$V_R=6V$	-	-	1	A
	Input Capacitance	$C_{in}$	$V=0,$ $f=1MHz$	-	10	-	pF
Output	Collector-Emitter dark current	$I_{CEO}$	$V_{CE}=20V,$ $I_F=0$	-	-	100	nA
	Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=0.1mA$ $I_F=0$	80	-	-	V
	Emitter-Collector breakdown voltage	$BV_{ECO}$	$I_E=0.1mA$ $I_F=0$	7	-	-	V
	Current transfer ratio	CTR'	I				

Transfer  
Characteristics



## Characteristics Curves

FIG.1: Forward Current vs. Ambient Temperature

FIG.2: Collector Power Dissipation vs. Ambient Temperature

FIG.7: Normalized Current Transfer Ratio vs. Ambient Temperature

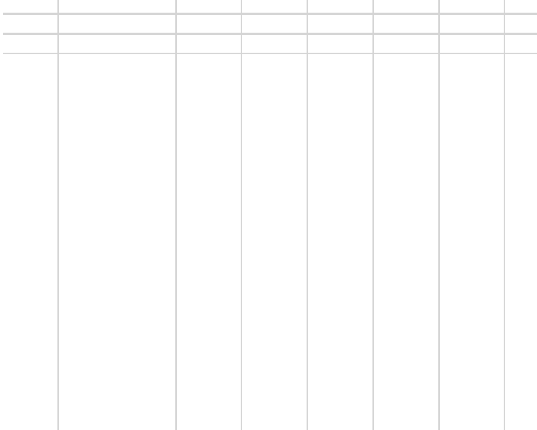


FIG.8: Normalized Collector-emitter Saturation Voltage vs. Ambient Temperature

Test Circuits

FIG.11: Test Circuits of Response Time

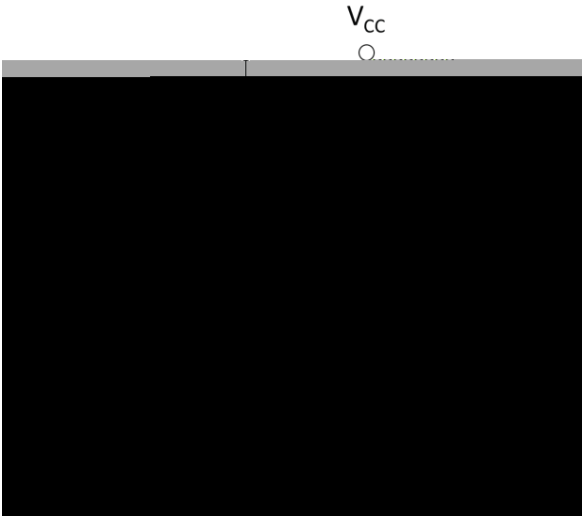
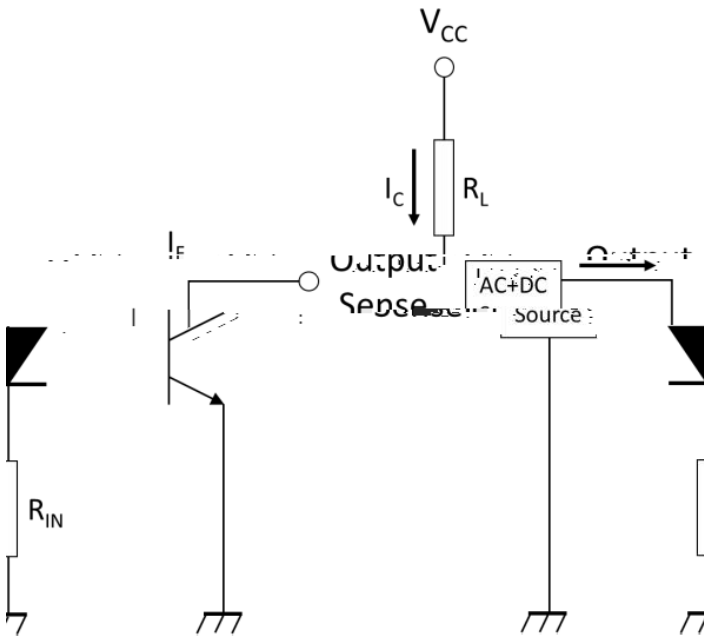


FIG.12: Curves of Response Time

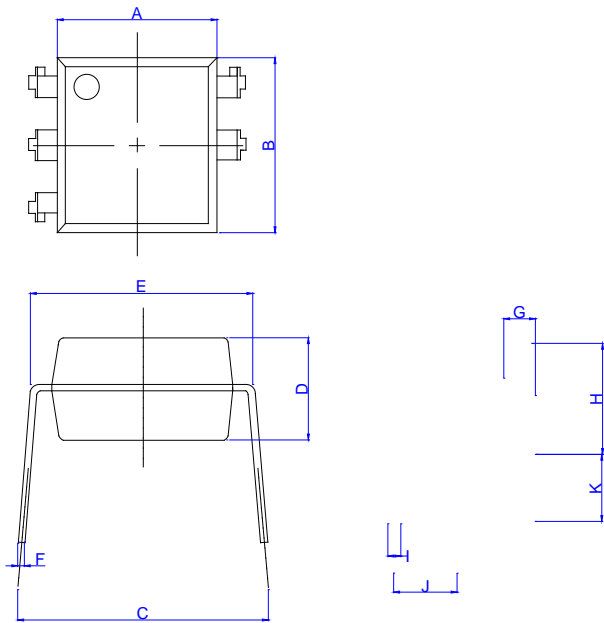


FIG.13: Test Circuits of Frequency Response



Package Dimension (Unit: mm)

Standard DIP Type:



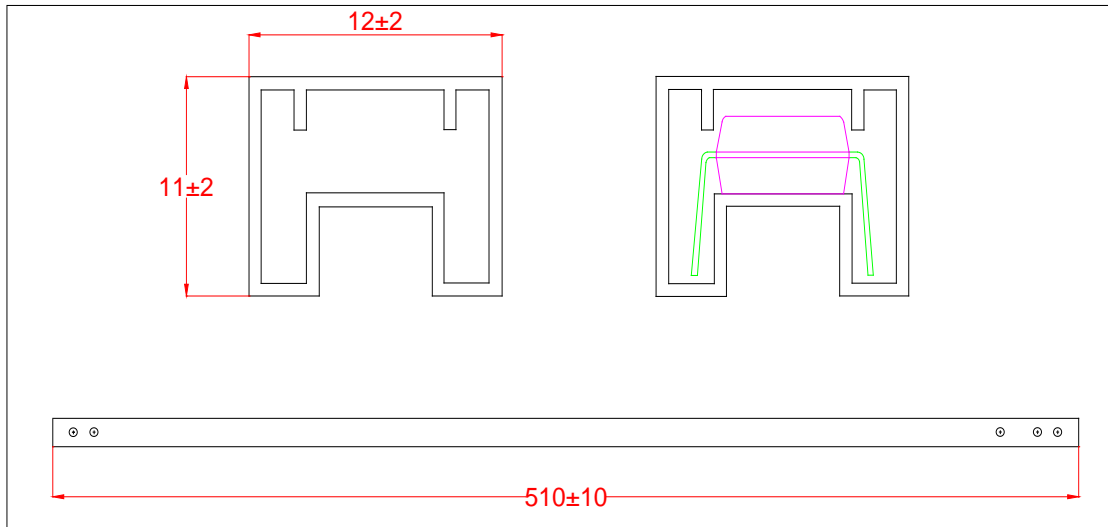
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.00		7.00	0.237		0.277
B	6.62		7.62	0.262		0.301
C	7.10		10.16	0.281		0.402
D	3.00		4.00	0.119		0.158
E	7.32		7.92	0.289		0.313
F						
G	0.90		1.50	0.036		0.059
H	3.50		4.80	0.138		0.190
I						
J						
K						



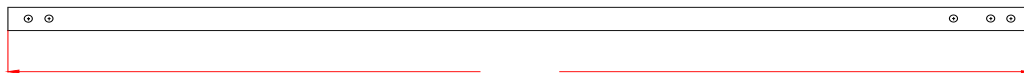


TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

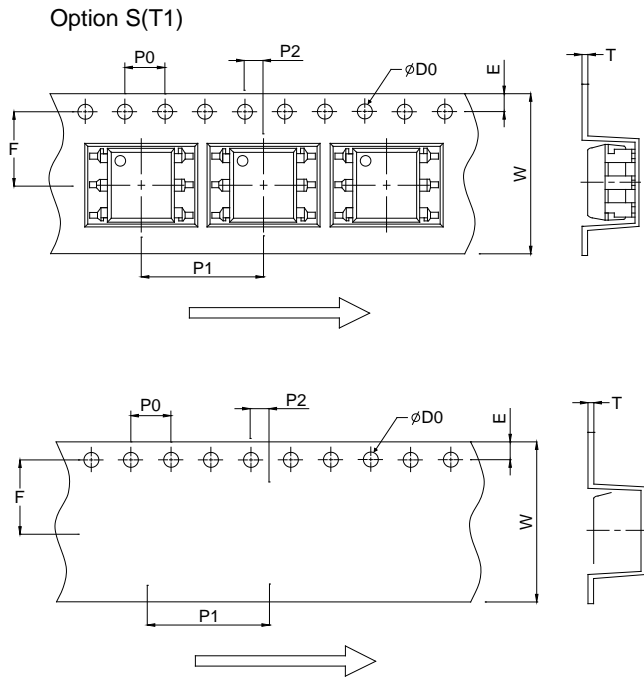
Standard DIP



Option M

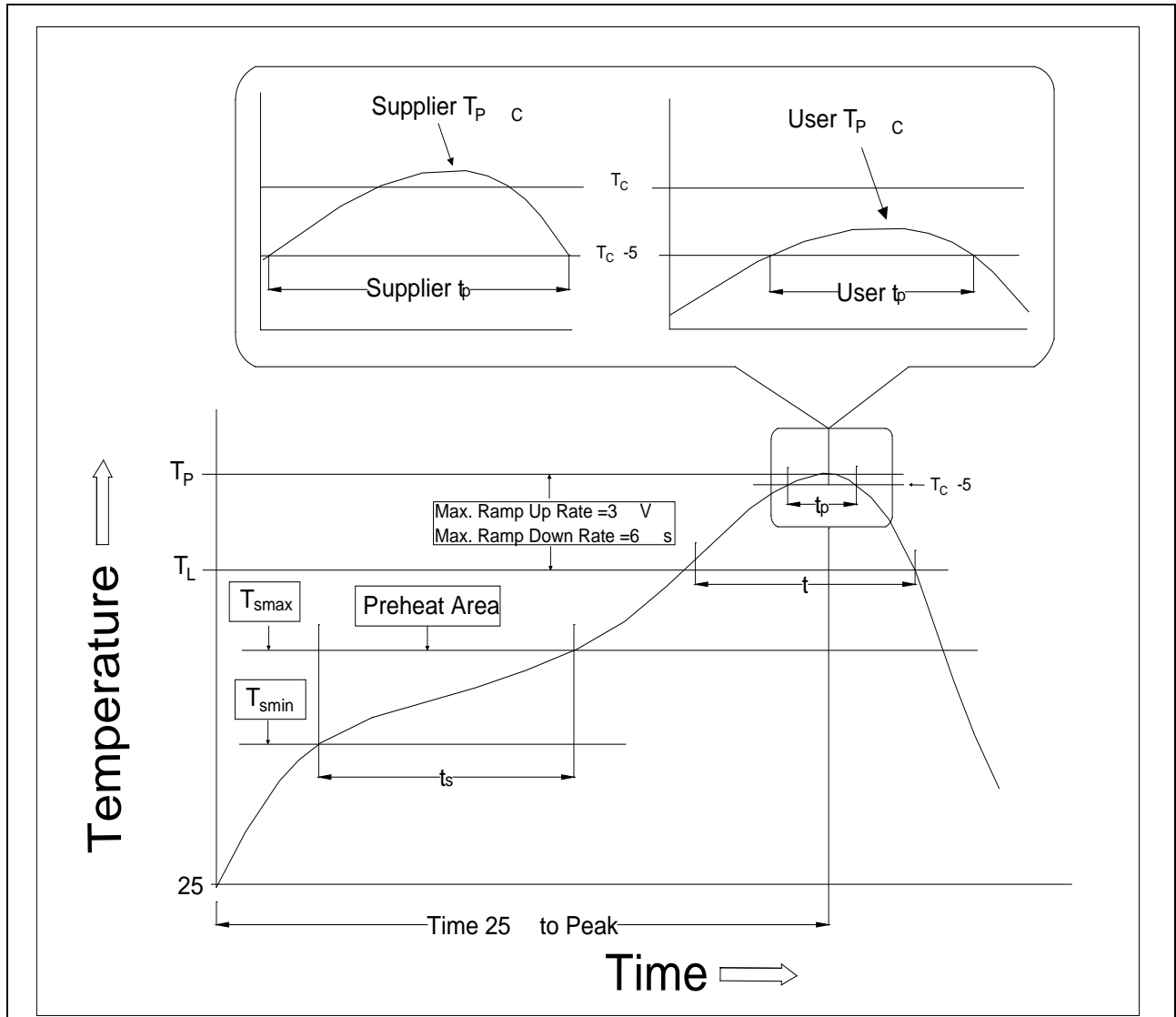


CARRIER TAPE SPECIFICATIONS Dimensions in mm unless otherwise stated



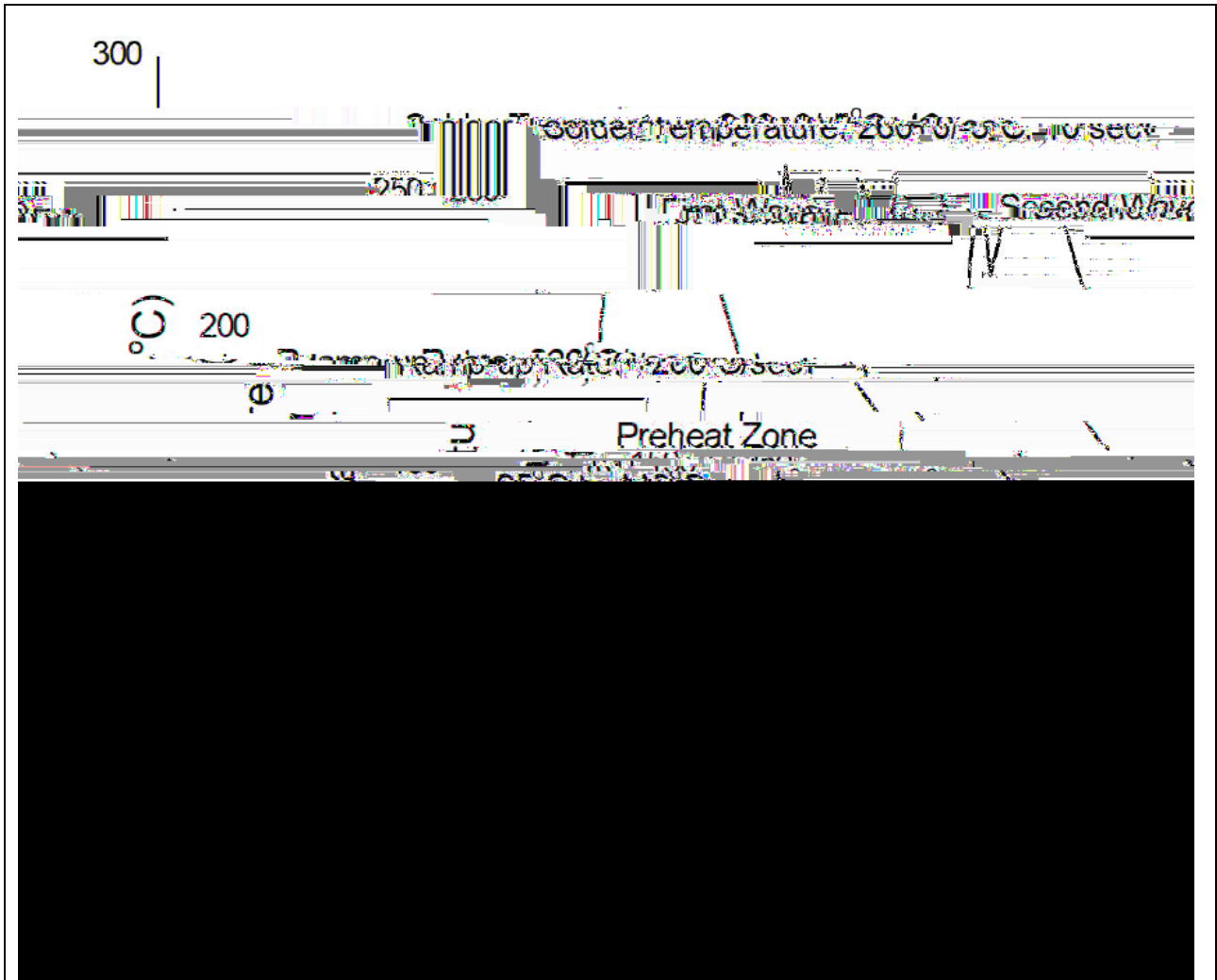
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.65		0.059	0.065
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90	12.00	12.10	0.469	0.472	0.476
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	7.40	7.50	7.60	0.291	0.295	0.299
T	0.25	0.35	0.45	0.010	0.014	0.018
W	15.70	16.00	16.30	0.618	0.630	0.642

REFLOW INFORMATION



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (T <sub>smin</sub> )	100	150
Temperature Max. (T <sub>smax</sub> )	150	200
Time (t <sub>s</sub> ) from (T <sub>smin</sub> to T <sub>smax</sub> )	60-120 seconds	60-120 seconds
Ramp-up Rate (t <sub>L</sub> to t <sub>P</sub> )	3 / second max.	3 / second max.
Liquidus Temperature (T <sub>L</sub> )	183	217
Time (t <sub>L</sub> ) Maintained Above (T <sub>L</sub> )	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235 +0 /-5	260 +0 /-5
Time (t <sub>P</sub> ) within 5 of 260	20 seconds	30 seconds
Ramp-down Rate (T <sub>P</sub> to T <sub>L</sub> )	6 / second max.	6 / second max.
Time 25 to Peak Temperature	6 minutes max.	8 minutes max.

WAVE SOLDERING



HAND SOLDERING BY SOLDERING IRON

Soldering Temperature	360± 5
Soldering Time	3s max.

