AUK Semiconductor

SPC817

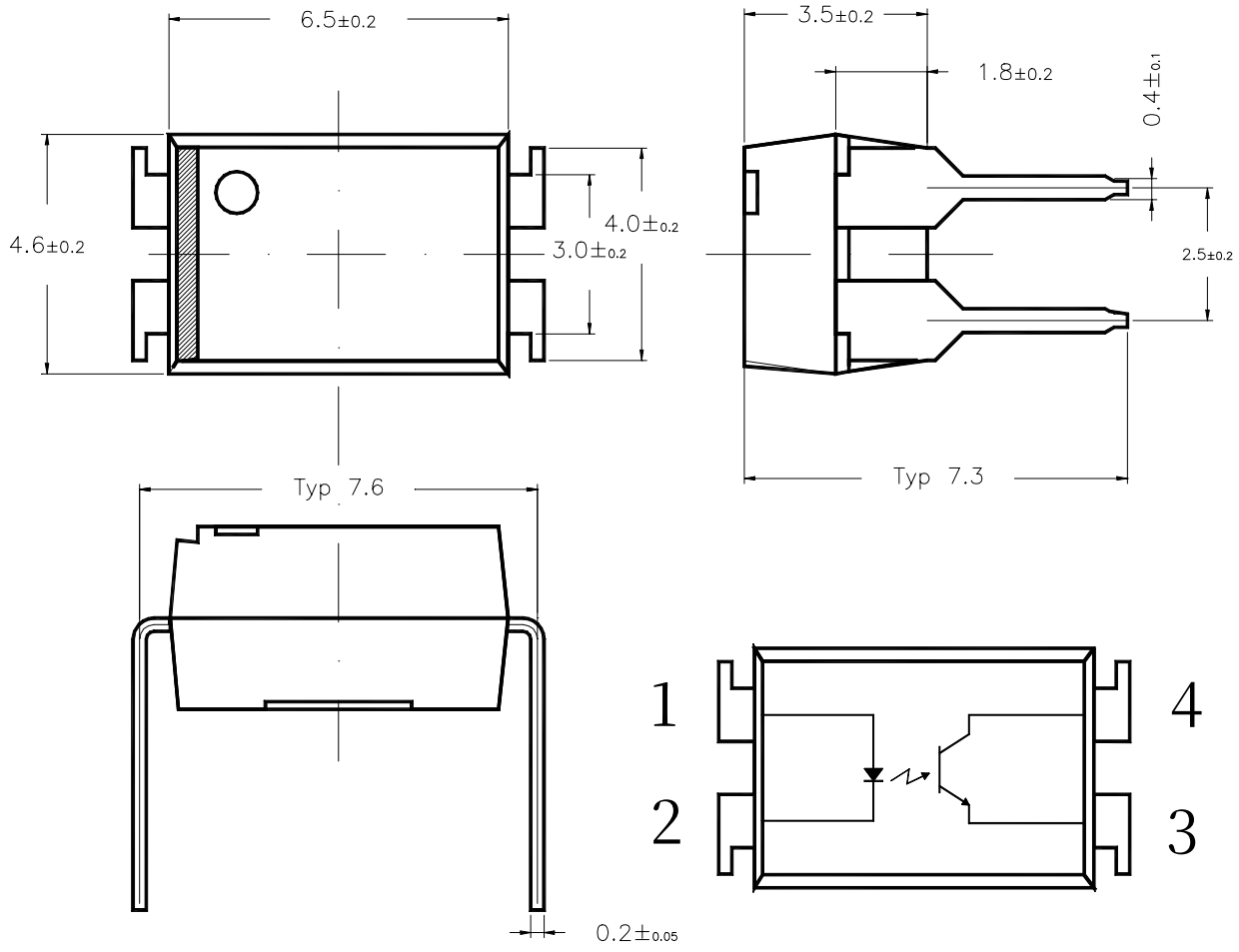
DIP Photo Coupler

Features

- Office machine
- AC/DC input module
- Telecommunication
- Programmable controller
- Power supply

Outline Dimensions

unit : mm



PIN Connections
1.Anode
2.Cathode
3.Emitter
4.Collector

Absolute maximum ratings

(Ta=25)

Characteristic		Symbol	Ratings	Unit
IRED	Continuous Forward Current	I_F	50	mA
	Reverse Voltage	V_R	5	V
	Power Dissipation	P_D	70	mW
Detector	Collector-Emitter Voltage	V_{CEO}	35	V
	Emitter-Collector Voltage	V_{ECO}	6	V
	Collector Current	I_C	50	mA
	Power Dissipation	P_D	150	mW
Coupler	Operating Temperature	T_{opr}	-30~100	℃
	Storage Temperature	T_{stg}	-55~125	℃
	Soldering Temperature	T_{sol}	260℃ within 10 seconds	
	*1Isolation Voltage	V_{iso}	2,500	V_{rms}

*1.Measured at RH = 40 ~60% for 1 min

Electrical Characteristics

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
IRED	Forward Current	V_F	I_F=10mA	-	1.15	1.3	V
	Reverse Current	I_R	V_R=5V	-	-	10	uA
	Capacitance	C_T	V=0V,f=1MHz	-	30	-	pF
Detector	Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=0.5mA	35	-	-	V
	Emitter-Collector Breakdown Voltage	BV_{ECO}	I_E=10uA	6	-	-	V
	Collector Dark Current	I_{CEO}	I_F=0mA,V_{CE}=10V	-	-	100	nA
	Capacitance	C_{CE}	V_{CE}=0,f=1MHz	-	10	-	pF
Coupler	*2Current Transfer Ratio	CTR	I_F=5mA,V_{CE}=5V	50	-	600	%
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_F=5mA,I_C=1mA	-	-	0.4	V
	Input-Output Capacitance	C_{I-O}	V=0V,f=1MHz	-	0.8	-	pF
	Isolation Resistance	R_{iso}	DC 500V 40~60% RH	-	10^{11}		Ω
Switching Time	Rise Time	t_r	V_{CC}=5V,R_L=100Ω I_C=2mA	-	4	-	usec
	Fall Time	t_f		-	4	-	

*2 Classification table of Current Transfer Ratio.

(CTR Rank Table)

A Rank : 80~160[%]

B Rank : 130~260[%]

C Rank : 200~400[%]

D Rank : 300~600[%]

Full Rank : 50~600[%]

Characteristic Diagrams

Fig. 1 I_F - V_F

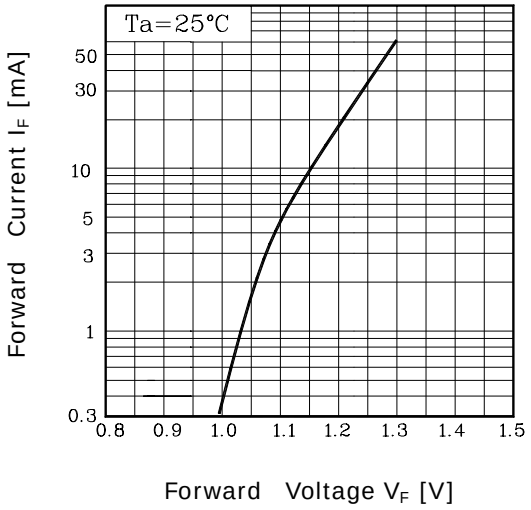


Fig. 2 CTR - I_F

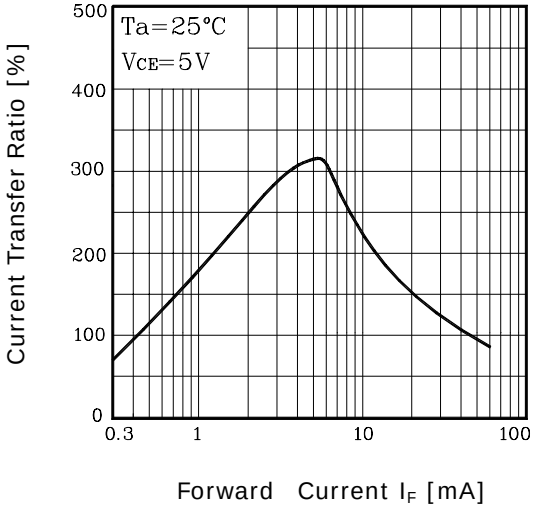


Fig. 3 I_F – Ta

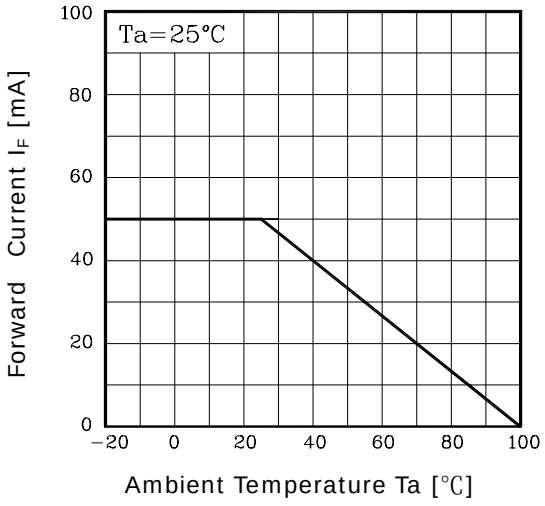


Fig.4 P_D - Ta

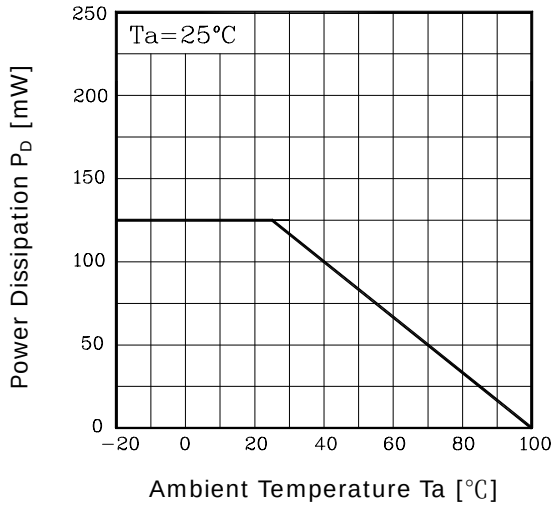


Fig. 5 I_{CEO} – Ta

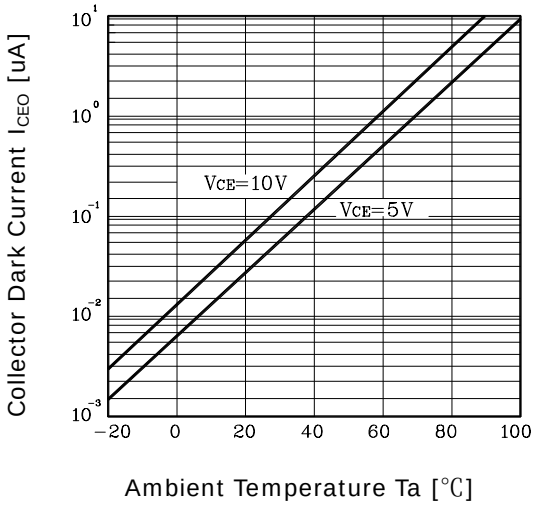


Fig. 5 I_C - Ta