

Photocoupler

KODENSHI

KPC2020 • KPC2021 • KPC2022 • KPC2023

These Photocouplers consist of a Gallium Arsenide Infrared Emitting Diode and a Silicon NPNPN Phototriac in a 6-pin package.

FEATURES

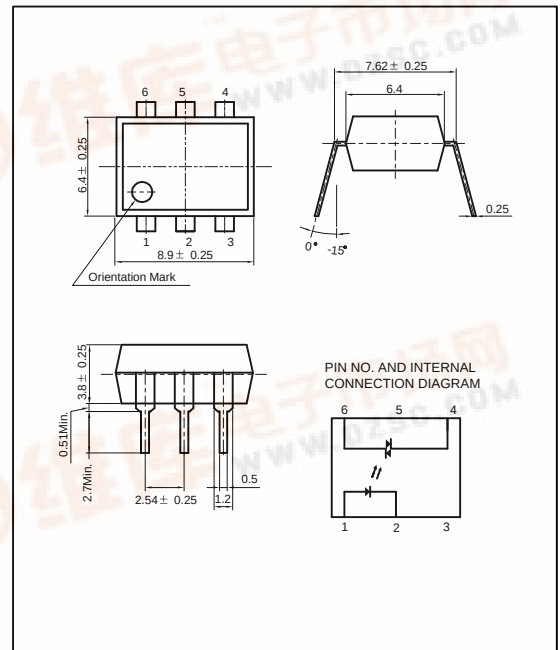
- Peak Off-state Voltage : Min.400V
- On-state Current : Max. 100mA
- Electrical Isolation Voltage : AC2500V_{rms}
- Trigger LED Current
- UL Recognized File No. E107486

APPLICATIONS

- Office Machine
- Household Use Equipment
- Triac Driver
- Solid State Relay

DIMENSION

(Unit : mm)



MAXIMUM RATINGS

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward Current	I _F	50	mA
	Reverse Voltage	V _R	5	V
	Peak Forward Current *1	I _{FP}	1	A
	Power Dissipation	P _D	100	mW
Output	Peak Off-state Voltage	V _{DRM}	400	V
	On-state RMS Current	I _{T(rms)}	100	mA
			50	
	Peak Nonrepetitive Surge Current *2	I _{surge}	1.2	A
	Power Dissipation	P _D	150	mW
Input to Output Isolation Voltage *3		V _{iso}	AC2500	V _{rms}
Storage Temperature		T _{stg}	-55~+100	°C
Operating Temperature		T _{opr}	-40~+100	°C
Lead Soldering Temperature *3		T _{sol}	260	°C
Total Power Dissipation		P _{tot}	330	mW

*1. Input current with 100μs pulse width, 1% duty cycle

*2. 100μs pulse, 120 pps

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

*4. 1/16 inch form case for 10sec

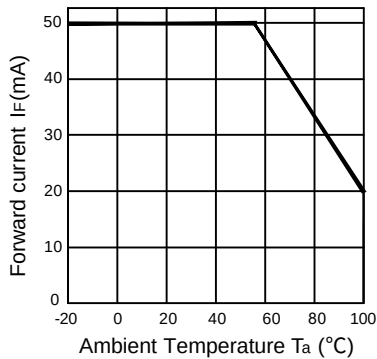
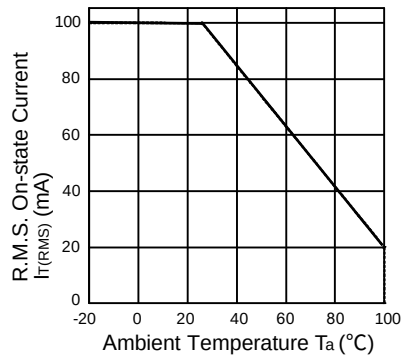
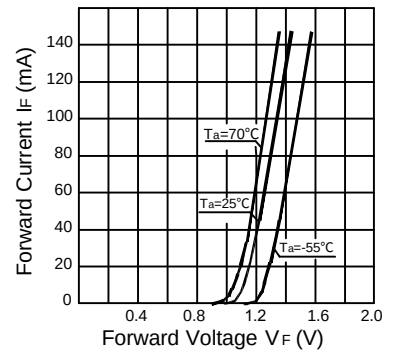
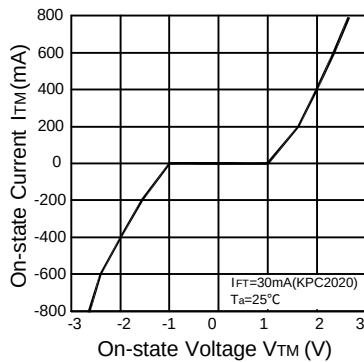
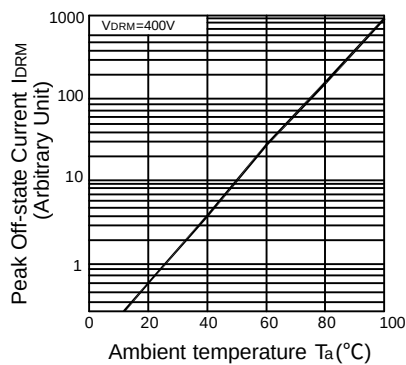
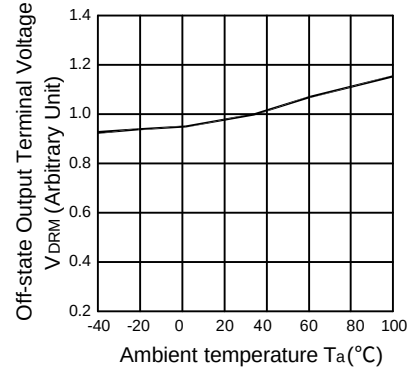
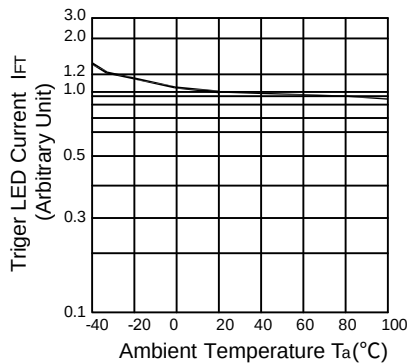
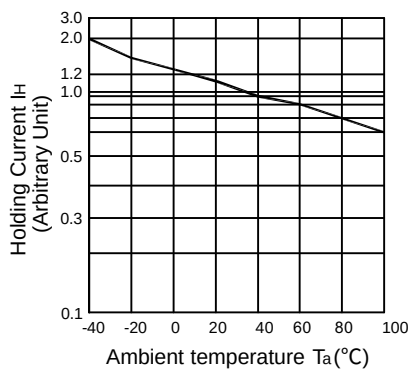
KPC2020 • KPC2021 • KPC2022 • KPC2023
ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C , unless otherwise noted)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit.
Input	Forward Voltage	V_F	$I_F=10\text{mA}$	-	1.15	1.30	V
	Reverse Current	I_R	$V_R=5\text{V}$	-	-	10	mA
	Capacitance	C_T	$V=0, f=1\text{MHz}$	-	30	-	pF
Output	Peak Off-state Current	I_{DRM}	$V_{DRM}=400\text{V}$	-	10	100	nA
	Peak On-state Voltage	V_{TM}	$I_T=100\text{mA}$	-	1.4	3	V
	Holding Current	I_H		-	100	-	μA
	Critical Rate Of Rese Off-state Voltage ^{*5}	dV/dt	$I_F=0, V_{CE}=10\text{V}$	-	100	-	V/μs
Coupled	Trigger LED Current	I_{FT}	$V_T=3\text{V}$		15	30	mA
				-	8	15.0	
					5	10.0	
					3	5.0	
	Input-Output Capacitance	C_{IO}	$V=0, f=1\text{MHz}$	-	1	-	pF
	Input-Output Isolation Resistance	R_{IO}	$R_H=40\sim60\%, V=500\text{V}$	-	10^{11}	-	Ω

 *5. Input Voltage=0, the frequency of V_{in} is increased until the Phototriac just turns on.

KPC2020 • KPC2021 • KPC2022 • KPC2023

Forward Current vs.
Ambient TemperatureR.M.S. On-state Current vs.
Ambient TemperatureForward Current vs.
Forward VoltageOn-state Current vs.
On-state VoltagePeak Off-state Current vs.
Ambient TemperaturePeak Off-state Voltage vs.
Ambient TemperatureTrigger LED Current vs.
Ambient TemperatureHolding Current vs.
Ambient TemperatureNormalized LED Current vs.
LED Current Pulse Width