

**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**

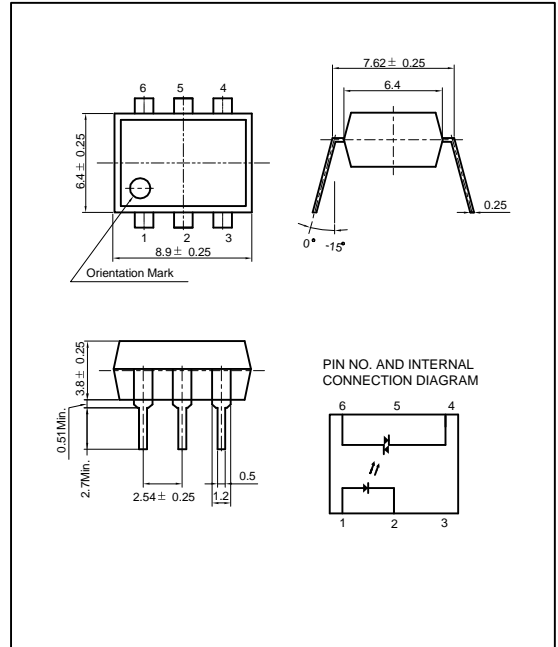
- Peak Off-state Voltage : Min.400V
- On-state Current : Max. 100mA
- Electrical Isolation Voltage : AC2500Vrms
- Trigger LED Current
- UL Recognized File No. E107486

**APPLICATIONS**

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

**DIMENSION**

(Unit : mm)



**MAXIMUM RATINGS**

( $T_a=25$  )

Parameter		Symbol	Rating	Unit	
Input	Forward Current	$I_F$	50	mA	
	Reverse Voltage	$V_R$	5	V	
	Peak Forward Current <sup>*1</sup>	$I_{FP}$	1	A	
	Power Dissipation	$P_D$	100	mW	
Output	Peak Off-state Voltage	$V_{DRM}$	400	V	
	On-state RMS Current	$I_{T(rms)}$	$T_a=25$	100	mA
			$T_a=70$	50	
	Peak Nonrepetitive Surge Current <sup>*2</sup>	$I_{surge}$	1.2	A	
Power Dissipation	$P_D$	150	mW		
Input to Output Isolation Voltage <sup>*3</sup>		$V_{iso}$	AC2500	$V_{rms}$	
Storage Temperature		$T_{stg}$	-55~+100		
Operating Temperature		$T_{opr}$	-40~+100		
Lead Soldering Temperature <sup>*3</sup>		$T_{sol}$	260		
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

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**ELECTRO-OPTICAL CHARACTERISTICS**

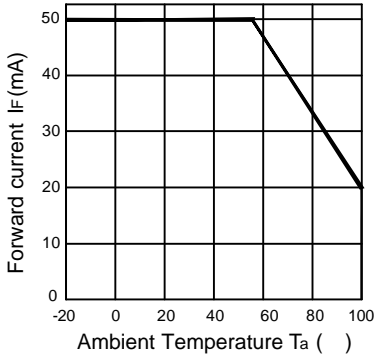
(Ta=25 , unless otherwise noted)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit.	
Input	Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	-	1.15	1.30	V	
	Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	mA	
	Capacitance	C <sub>T</sub>	V=0, f=1MHz	-	30	-	pF	
Output	Peak Off-state Current	I <sub>DRM</sub>	V <sub>DRM</sub> =400V	-	10	100	nA	
	Peak On-state Voltage	V <sub>TM</sub>	I <sub>T</sub> =100mA	-	1.4	3	V	
	Holding Current	I <sub>H</sub>		-	100	-	μA	
	Critical Rate Of Rese Off-state Voltage <sup>*5</sup>	dV/dt	I <sub>F</sub> =0, V <sub>CE</sub> =10V	-	100	-	V/μs	
Coupled	Trigger LED Current	I <sub>FT</sub>	V <sub>T</sub> =3V		15	30	mA	
					-	8		15.0
						5		10.0
						3		5.0
	Input-Output Capacitance	C <sub>IO</sub>	V=0, f=1MHz	-	1	-	pF	
Input-Output Isolation Resistance	R <sub>IO</sub>	RH=40~60%, V=500V	-	10 <sup>11</sup>	-			

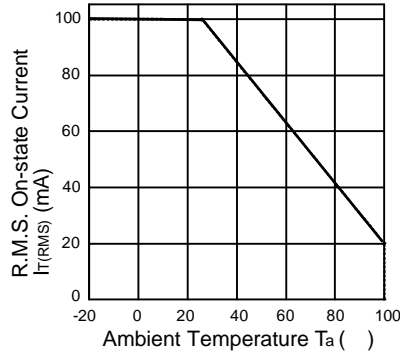
\*5. Input Voltage=0, the frequency of V<sub>in</sub> is increased until the Phototriac just turns on.

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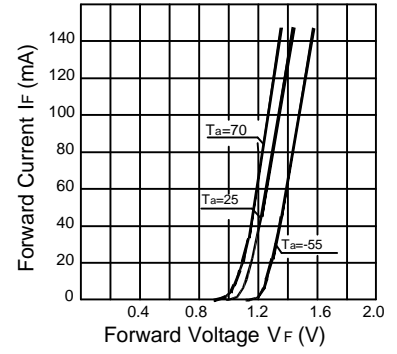
**Forward Current vs. Ambient Temperature**



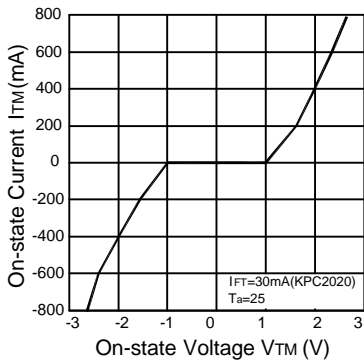
**R.M.S. On-state Current vs. Ambient Temperature**



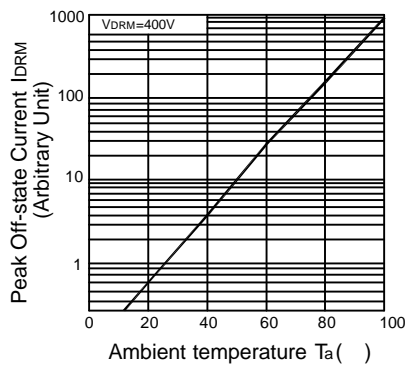
**Forward Current vs. Forward Voltage**



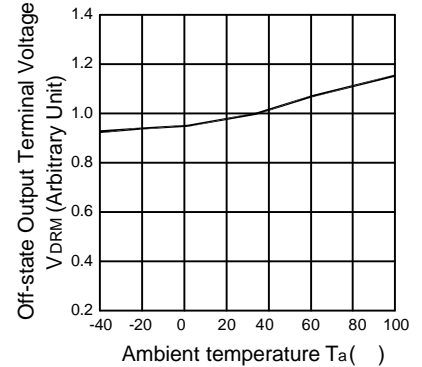
**On-state Current vs. On-state Voltage**



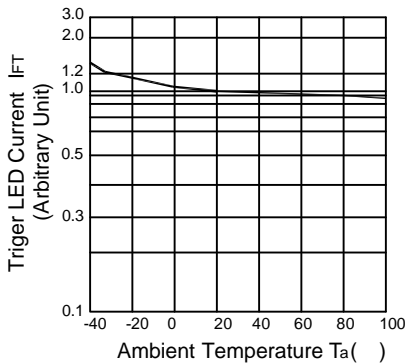
**Peak Off-state Current vs. Ambient Temperature**



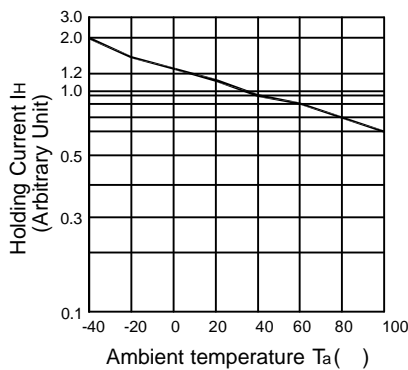
**Peak Off-state Voltage vs. Ambient Temperature**



**Trigger LED Current vs. Ambient Temperature**



**Holding Current vs. Ambient Temperature**



**Normalized LED Current vs. LED Current Pulse Width**

