

KPC3020 • KPC3021 • KPC3022 • KPC3023

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

FEATURES

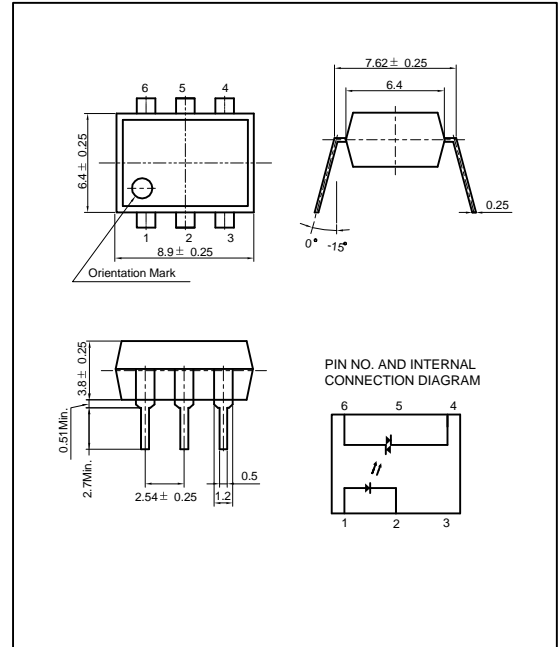
- Peak Off-state Voltage : Min.400V
- On-state Current : Max. 100mA
- Electrical Isolation Voltage : AC5000Vrms
- Trigger LED Current
- UL Recognized File No. E107486

APPLICATIONS

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

DIMENSION

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Parameter		Symbol	Rating	Unit	
Input	Forward Current	IF	50	mA	
	Reverse Voltage	VR	5	V	
	Peak Forward Current *1	IFP	1	A	
	Power Dissipation	PD	100	mW	
Output	Peak Off-state Voltage	VDRM	400	V	
	On-state RMS Current	IT(rms)	Ta=25	100	mA
			Ta=70	50	
	Peak Nonrepetitive Surge Current *2	Isurge	1.2	A	
Power Dissipation	PD	150	mW		
Input to Output Isolation Voltage *3		Viso	AC5000	Vrms	
Storage Temperature		Tstg	-55~+100		
Operating Temperature		Topr	-40~+100		
Lead Soldering Temperature *3		Tsol	260		
Total Power Dissipation		Ptot	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

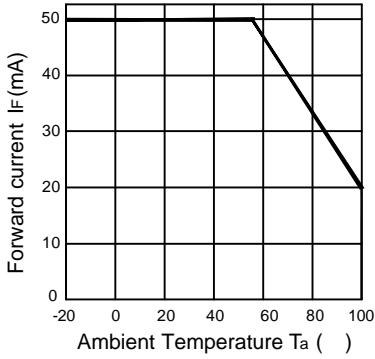
(Ta=25 , unless otherwise noted)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit.	
Input	Forward Voltage	V _F	I _F =10mA	-	1.15	1.30	V	
	Reverse Current	I _R	V _R =5V	-	-	10	mA	
	Capacitance	C _T	V=0, f=1MHz	-	30	-	pF	
Output	Peak Off-state Current	I _{DRM}	V _{DRM} =400V	-	10	100	nA	
	Peak On-state Voltage	V _{TM}	I _T =100mA	-	1.4	3	V	
	Holding Current	I _H		-	100	-	μA	
	Critical Rate Of Rese Off-state Voltage *5	dV/dt		-	100	-	V/μs	
Coupled	Trigger LED Current	I _{FT}	V _T =3V		15	30	mA	
					-	8		15.0
						5		10.0
						3		5.0
	Input-Output Capacitance	C _{IO}	V=0, f=1MHz	-	0.6	-	pF	
Input-Output Isolation Resistance	R _{IO}	RH=40~60%, V=500V	-	10 ¹¹	-			

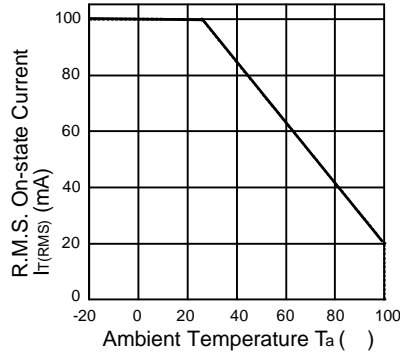
*5. Input Voltage=0, the frequency of Vin is increased until the Phototriac just turns on.

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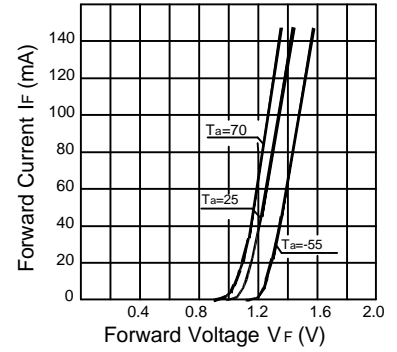
Forward Current vs. Ambient Temperature



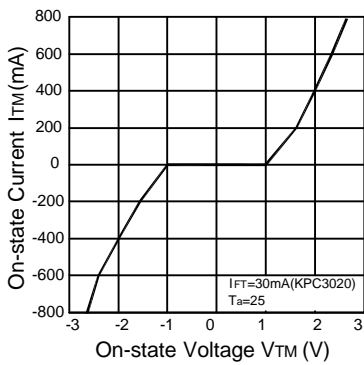
R.M.S. On-state Current vs. Ambient Temperature



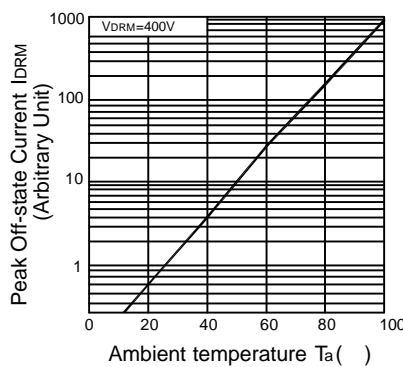
Forward Current vs. Forward Voltage



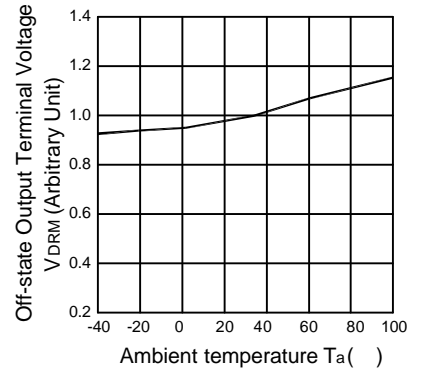
On-state Current vs. On-state Voltage



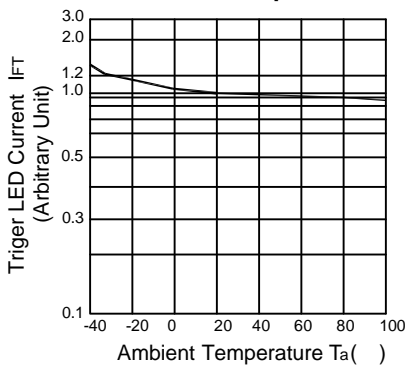
Peak Off-state Current vs. Ambient Temperature



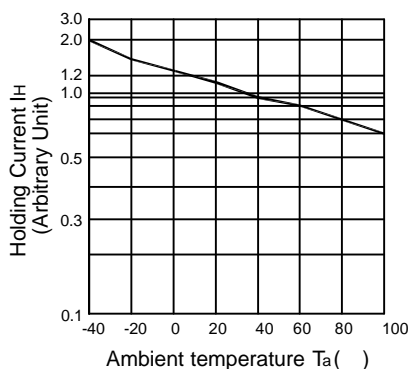
Peak Off-state Voltage vs. Ambient Temperature



Trigger LED Current vs. Ambient Temperature



Holding Current vs. Ambient Temperature



Normalized LED Current vs. LED Current Pulse Width

