

KPC3051 • KPC3052

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

FEATURES

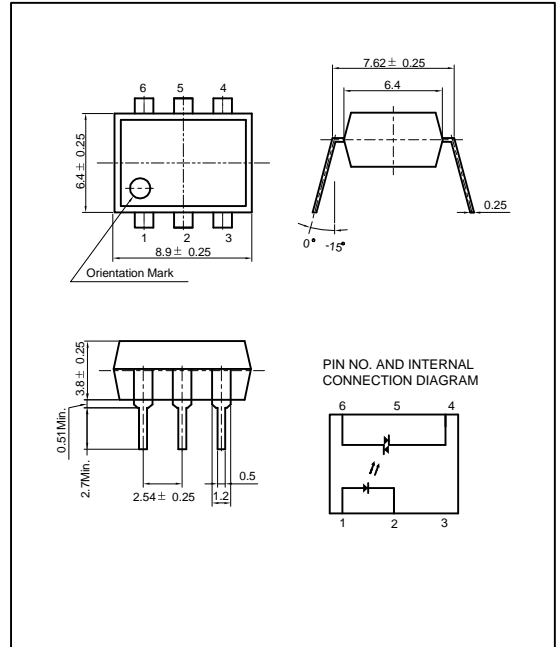
- Peak Off-state Voltage : Min.600V
- On-state Current : Max. 100mA
- Electrical Isolation Voltage : AC5000Vrms
- Trigger LED Current

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 ^{*1}	I_{FP}	1	A	
	Power Dissipation	P_D	100	mW	
Output	Peak Off-state Voltage	V_{DRM}	600	V	
	On-state RMS Current	$I_{T(rms)}$	$T_a=25$	100	mA
			$T_a=70$	50	
	Peak Nonrepetitive Surge Current ^{*2}	I_{surge}	1.2	A	
Power Dissipation	P_D	300	mW		
Input to Output Isolation Voltage ^{*3}		V_{iso}	AC5000	V_{rms}	
Storage Temperature		T_{stg}	-55~+100		
Operating Temperature		T_{opr}	-40~+100		
Lead Soldering Temperature ^{*3}		T_{sol}	260		
Total Power Dissipation		P_{tot}	330	mW	

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

*2. 100 μ s 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

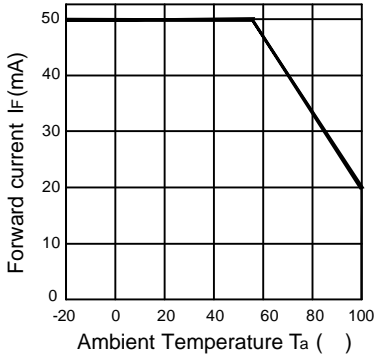
(Ta=25 , unless otherwise noted)

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} =600V	-	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 Rise Off-state Voltage *5	dV/dt		-	100	-	V/μs	
Coupled	Trigger LED Current	KPC3051	I _{FT}	V _T =6V		8	15	mA
		KPC3052			-	5	10.0	
	Input-Output Capacitance	C _{IO}	V=0, f=1MHz	-	1	-	pF	
	Input-Output Isolation Resistance	R _{IO}	R _H =40~60%, V=500V	-	10 ¹¹	-		

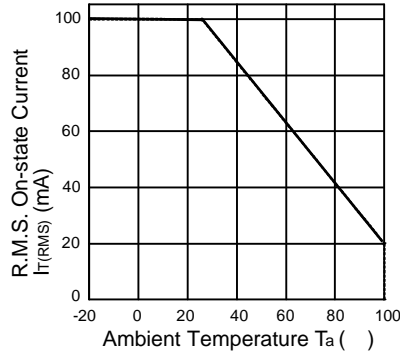
*5. Input Voltage=0, the frequency of V_{in} is increased until the Phototriac just turns on.

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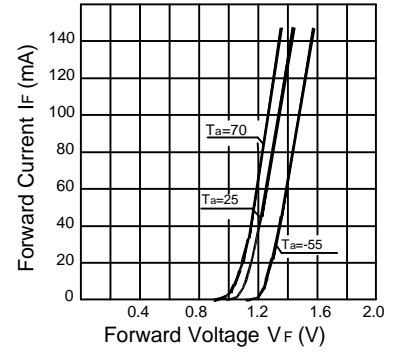
Forward Current vs. Ambient Temperature



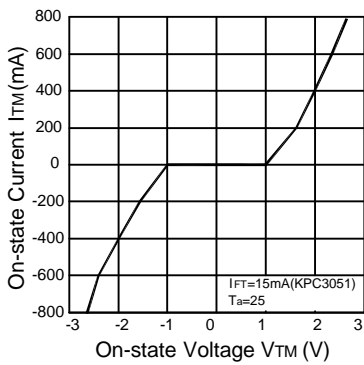
R.M.S. On-state Current vs. Ambient Temperature



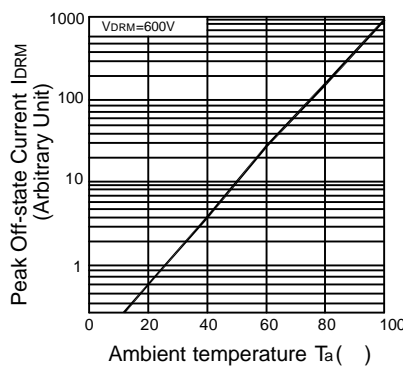
Forward Current vs. Forward Voltage



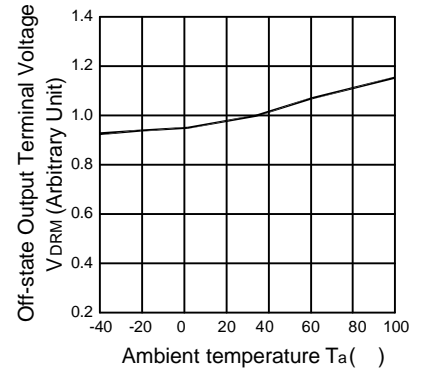
On-state Current vs. On-state Voltage



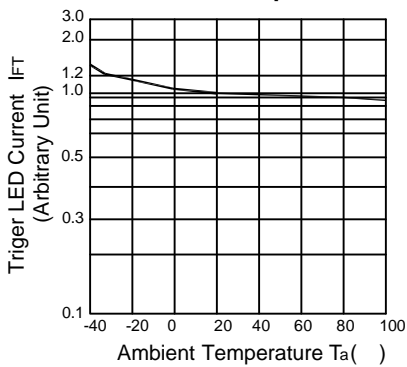
Peak Off-state Current vs. Ambient Temperature



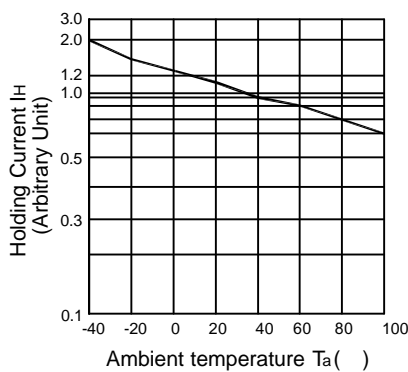
Peak Off-state Voltage vs. Ambient Temperature



Trigger LED Current vs. Ambient Temperature



Holding Current vs. Ambient Temperature



Normalized LED Current vs. LED Current Pulse Width

