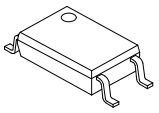
SSOP-4 PHOTOTRANSISTOR PHOTOCOUPLER



SSOP-4

■ DESCRIPTION

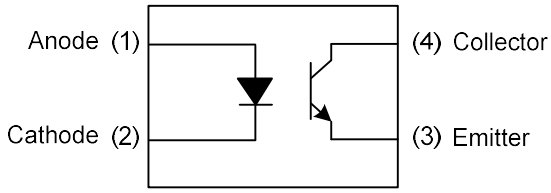
The UTC **UPC217** is a phototransistor photocoupler, it uses UTC's advanced technology to provide the customers with high isolation voltage between input and output, etc.

The UTC **UPC217** is suitable for programmable controllers and telecommunication equipments, etc.

■ FEATURES

* Current transfer ratio (CTR: MIN. 50% at I_F=5mA,V_{CE}=5V)
* Isolation voltage between input and output (V_{ISO}=3750 Vrms)
* High collector-emitter voltage (V_{CEO}=80V)
* Employs double transfer mold technology

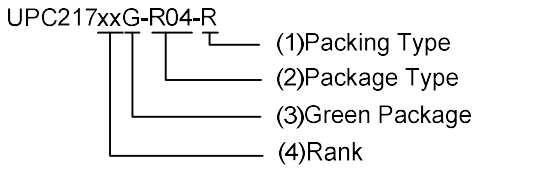
■ SYMBOL



■ ORDERING INFORMATION

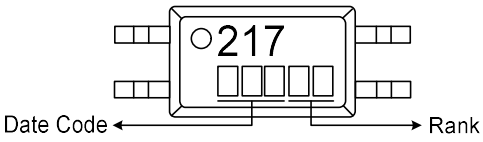
Ordering Number		Package	Pin Assignment				Packing
Lead Free	Halogen Free		1	2	3	4	
UPC217L-R04-R	UPC217G-R04-R	SSOP-4	A	K	E	C	Tape Reel
UPC217xxL-R04-R	UPC217xxG-R04-R	SSOP-4	A	K	E	C	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode E: Emitter C: Collector



(1) R: Tape Reel
(2) R04: SSOP-4
(3) G: Halogen Free and Lead Free, L: Lead Free
(4) Refer to TRANSFER CHARACTERISTICS

■ MARKING



Copyright © 2026 Unisonic Technologies Co., Ltd

■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Input	Forward Current	I_F	50	mA
	Peak Forward Current (1μs, Pulse)	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	70	mW
	Derating Factor		1	mW/°C
Output	Power Dissipation	P_C	150	mW
	Derating Factor		1.5	mW/°C
	Collector Current	I_C	50	mA
	Collector-Emitter Voltage	V_{CEO}	80	V
	Emitter-Collector Voltage	V_{ECO}	7	V
Power Dissipation		P_D	200	mW
Isolation Voltage (Note 2)		V_{ISO}	3750	Vrms
Operating Temperature		T_{OPR}	-55 ~ +110	°C
Storage Temperature		T_{STG}	-55 ~ +125	°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. AC for 1 minute, R.H.= 40~60% R.H. In this test, pins 1, 2 are shorted together, and pins 3, 4 are shorted together.

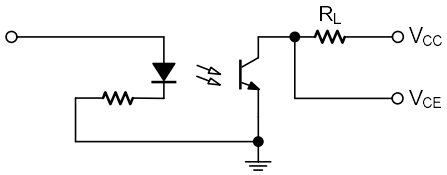
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

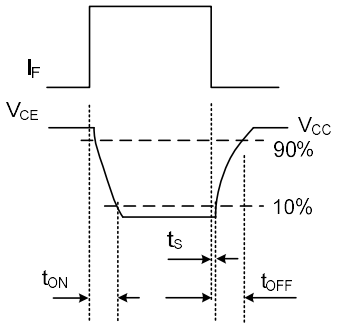
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
INPUT						
Forward Voltage	V_F	I_F=10mA		1.2	1.4	V
Reverse Current	I_R	V_R=4V			10	μA
Input Capacitance	C_{IN}	V=0, f=1kHz		30	250	pF
OUTPUT						
Collector-Emitter Dark Current	I_{CEO}	V_{CE}=20V, I_F=0mA			100	nA
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=0.1mA	80			V
Emitter-Collector Breakdown Voltage	BV_{ECO}	I_E=0.1mA	7			V

■ TRANSFER CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Current Transfer Ratio	CTR	I_F=5mA ,V_{CE}=5V	UPC217	50		600	%
			UPC217A	80		160	%
			UPC217A1	100		160	%
			UPC217B	130		260	%
			UPC217C	200		400	%
			UPC217D	300		600	%
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_F=8mA , I_C=2.4mA				0.4	V
Isolation Resistance	R_{IO}	V_{IO}=500Vdc, 40~60% R.H.		5×10^{10}	1×10^{11}		Ω
Floating Capacitance	C_{IO}	V_{IO}=0, f=1MHz			0.6	1.0	pF
Cut-Off Frequency	f_C	V_{CE}=5V, I_C=2mA, R_L=100Ω, -3dB			80		kHz
Rise Time	t_R	V_{CE}=2V, I_C=2mA, R_L=100Ω			4	18	μs
Fall Time	t_F				3	18	μs

■ SWITCHING TIME TEST CIRCUIT





UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.