

FEATURES

- **1 CHANNEL TYPE**
1 A output
- **CONTAINS A CURRENT LIMIT FUNCTION**
ILMT = 175 to 370 mA
- **HIGH ISOLATION VOLTAGE**
BV = 3,750 Vr.m.s.
- **DESIGNED FOR AC/DC SWITCHING LINE CHANGER**
- **SMALL PACKAGE**
6 pin DIP
- **LOW OFFSET VOLTAGE**
- **SURFACE MOUNT TYPE LEAD AVAILABLE**
PS7342CL-1A
- **AVAILABLE IN TAPE AND REEL**
PS7342CL-1A - E3, E4

DESCRIPTION

PS7342C-1A and PS7342CL-1A are solid state relays containing a GaAs LED on the light emitting side (input side) and MOSFETs and current control circuit on the output side. They are suitable for analog signal control because of their low offset and high linearity.

APPLICATIONS

- EXCHANGE EQUIPMENT
- MEASUREMENT EQUIPMENT
- FA/OA EQUIPMENT
- COMMUNICATIONS EQUIPMENT
- DAA (MODEM)

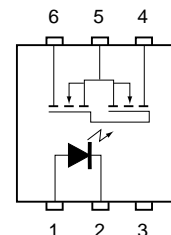
ELECTRICAL CHARACTERISTICS (TA = 25°C)

PART NUMBER			PS7342C-1A, PS7342CL-1A			
SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX	
Diode	V _F	Forward Voltage, I _F = 10 mA	V	1.2	1.4	
	I _R	Reverse Current, V _R = 5 V	μA		5.0	
Mosfet	I _{Loff}	Off-State Leakage Current, V _D = 400 V	μA	0.001	1.0	
	C _{out}	Output Capacitance, V _D = 0 V, f = 1 MHz	pF	237		
Coupled	R _{on1}	On-State Resistance, I _F = 10 mA, I _L = 10 mA	Ω	12	20	
	R _{on2}	On-State Resistance, I _F = 10 mA, I _L = 170 mA	Ω	12	20	
	t _{on}	Turn-On Time	I _F = 10 mA, V _L = 5 V, R _L = 500 Ω	ms	2.0	5.0
	t _{off}	Turn-Off Time		ms	0.06	1.0
	R _{I-O}	Isolation Resistance, V _{in-out} = 1.0 kVDC	Ω	10 ⁹		
	C _{I-O}	Isolation Capacitance, V = 0 V, f = 1 MHz	pF		1.1	
	ILMT	Limit Current ¹ , I _F = 10 mA, t = 5 ms, V _L = 6 V	mA	175	270	370

Notes:

1. N rank : 175 to 370 mA
M rank : 175 to 250 mA
L rank : 230 to 370 mA

PS7342C-1A, PS7342CL-1A



PS7342C-1A, PS7342CL-1A

ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
			PS7342C-1A PS7342CL-1A
Diode			
V _R	Reverse Voltage	V	5
I _F	Forward Current (DC)	mA	50
P _D	Power Dissipation	mW	50
I _{F (Peak)}	Peak Forward Current ²	A	1
MOSFET			
V _L	Break Down Voltage	V	400
I _L	Continuous Load Current	mA	170
P _D	Power Dissipation	mW	560
Coupled			
BV	Isolation Voltage ³	Vr.m.s.	3,750
P _T	Total Power Dissipation	mW	610
T _{STG}	Storage Temperature	°C	-40 to +125
T _A	Operating Ambient Temp.	°C	-40 to +85

Notes:

1. Operation in excess of any one of these parameters may result in permanent damage.
2. PW = 100 μs, Duty Cycle = 1 %
3. AC voltage for 1 minute at T_A = 25 °C, RH = 60 % between input and output.

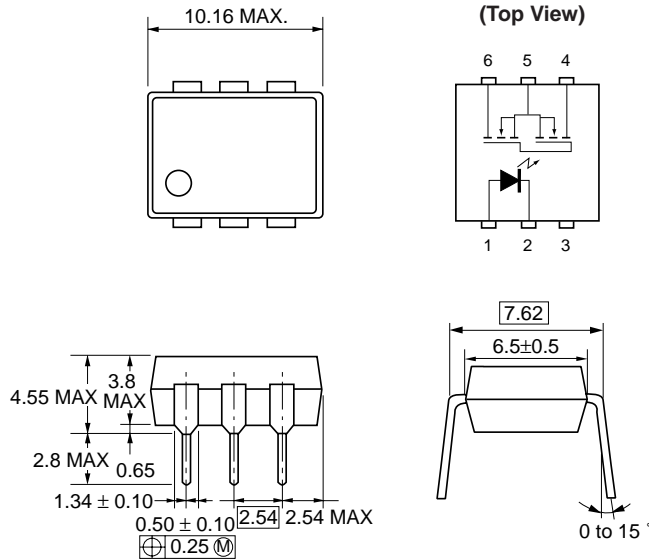
RECOMMENDED OPERATING CONDITIONS (T_A = 25 °C)

SYMBOL	PARAMETER	UNITS	MIN	TYP	MAX
I _F	LED Operating Current	mA	2	10	20
V _F	LED Off Voltage	V	0		0.5

OUTLINE DIMENSIONS (Units in mm)

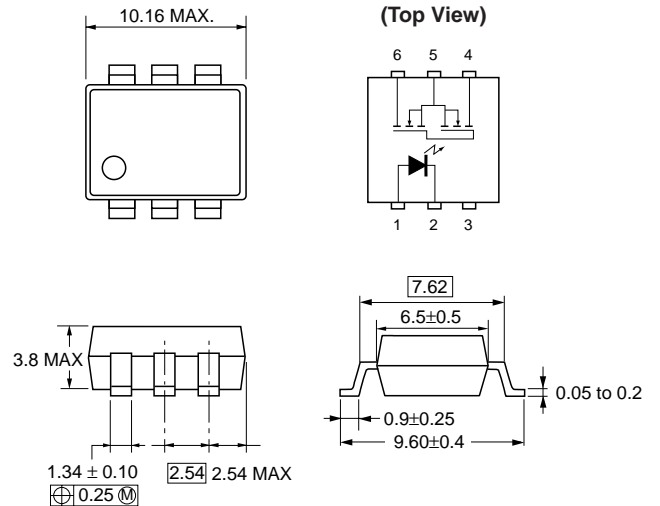
PS7342C-1A

1. LED Anode
2. LED Cathode
3. NC
4. MOSFET Drain
5. MOSFET Source
6. MOSFET Drain

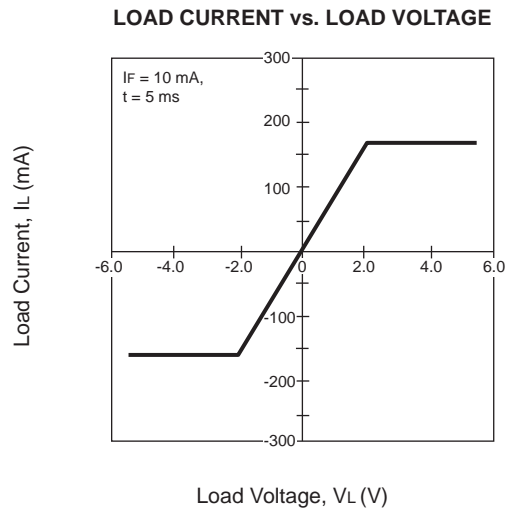
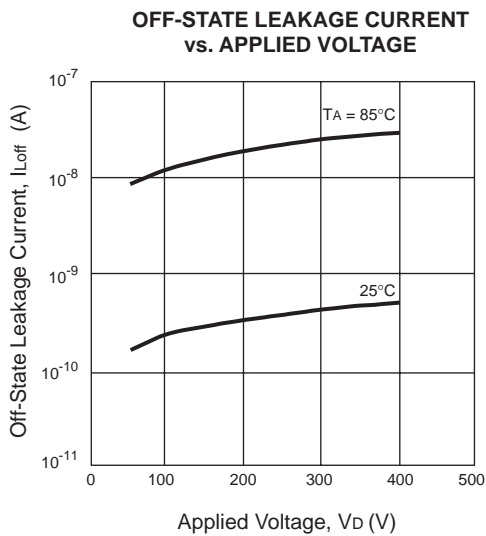
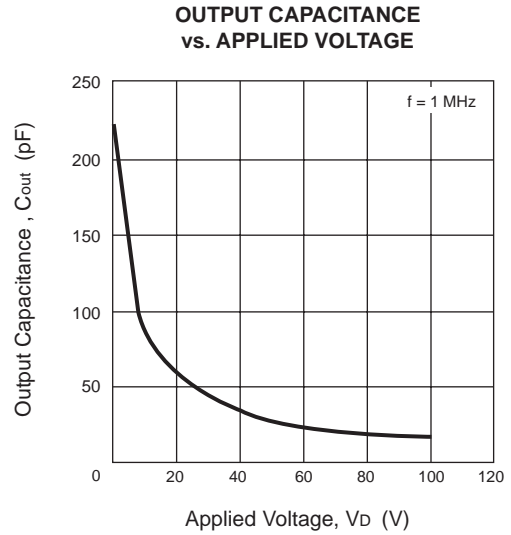
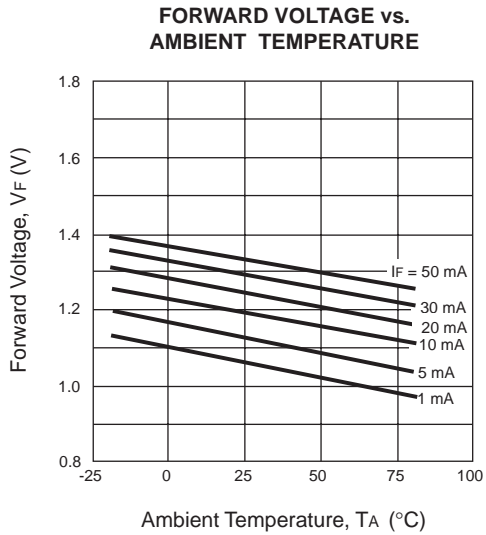
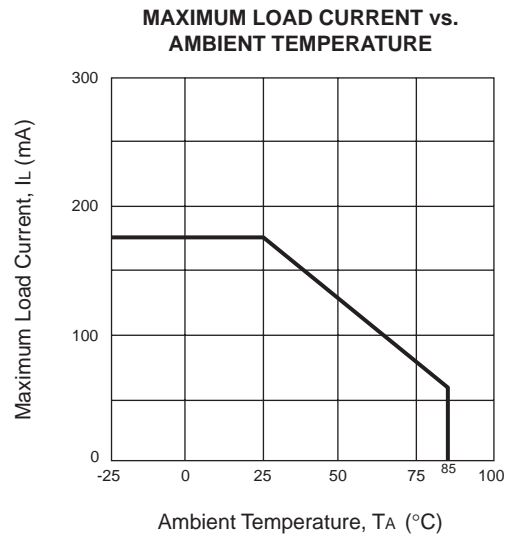
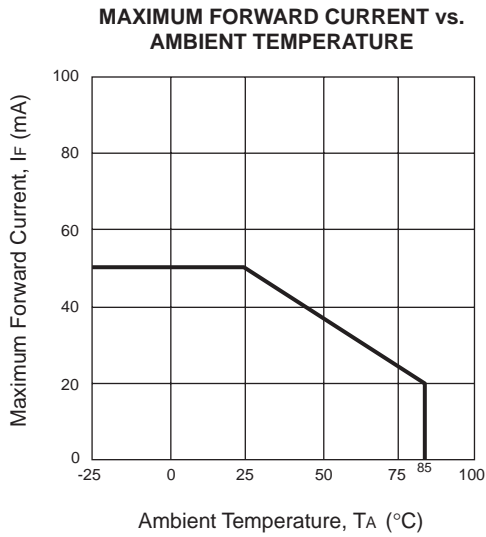


PS7342CL-1A

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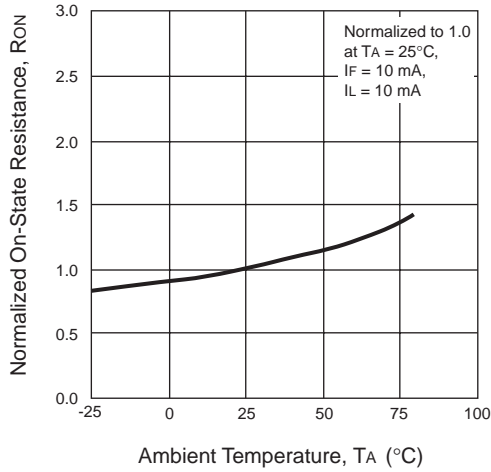


TYPICAL PERFORMANCE CURVES ($T_A = 25^\circ\text{C}$)

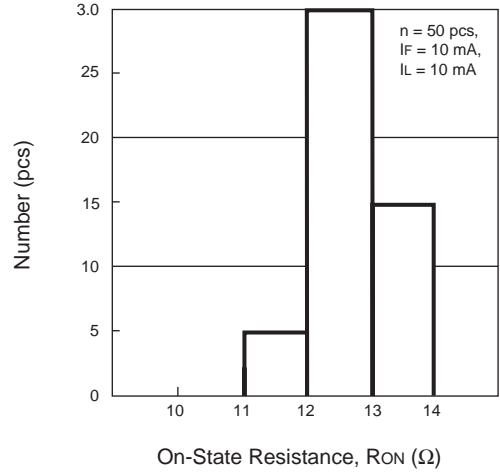


TYPICAL PERFORMANCE CURVES (TA = 25 °C)

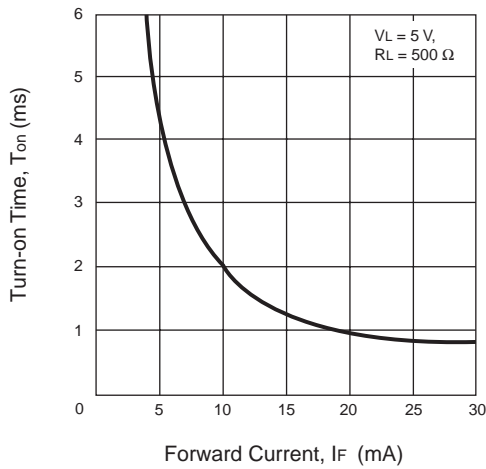
NORMALIZED ON-STATE RESISTANCE vs. AMBIENT TEMPERATURE



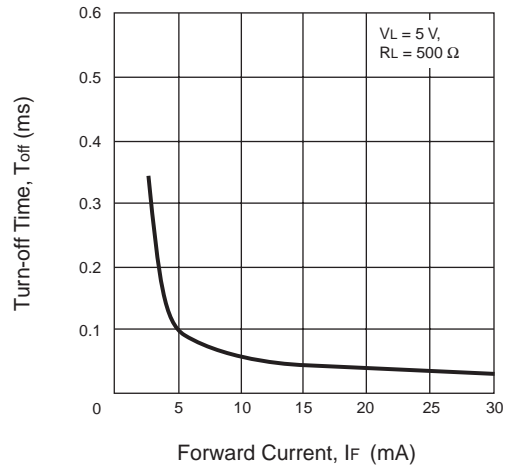
ON-STATE RESISTANCE DISTRIBUTION



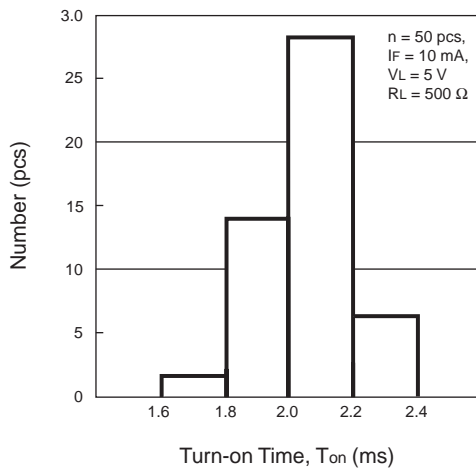
TURN-ON TIME vs. FORWARD CURRENT



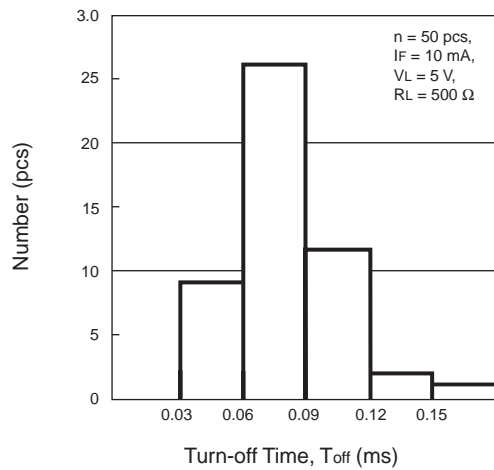
TURN-OFF TIME vs. FORWARD CURRENT



TURN-ON TIME DISTRIBUTION

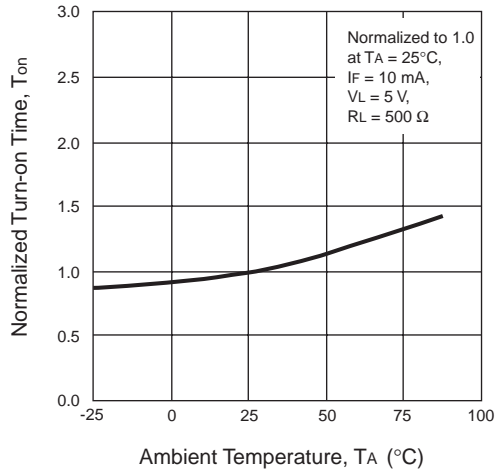


TURN-OFF TIME DISTRIBUTION

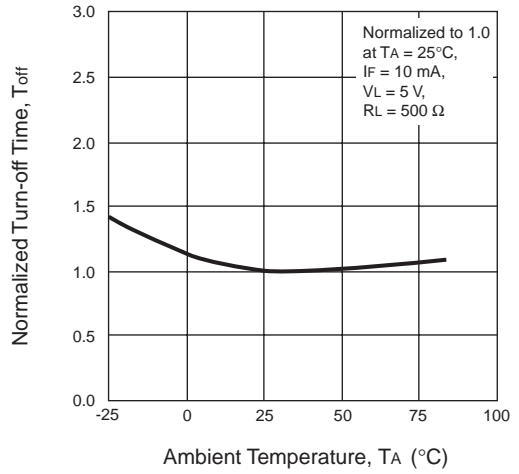


TYPICAL PERFORMANCE CURVES ($T_A = 25^\circ\text{C}$)

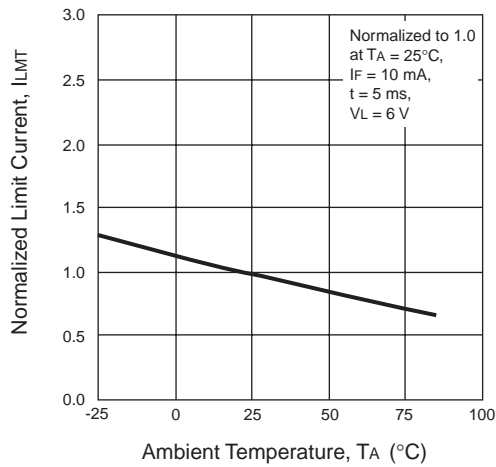
NORMALIZED TURN-ON TIME vs. AMBIENT TEMPERATURE



NORMALIZED TURN-OFF TIME vs. AMBIENT TEMPERATURE

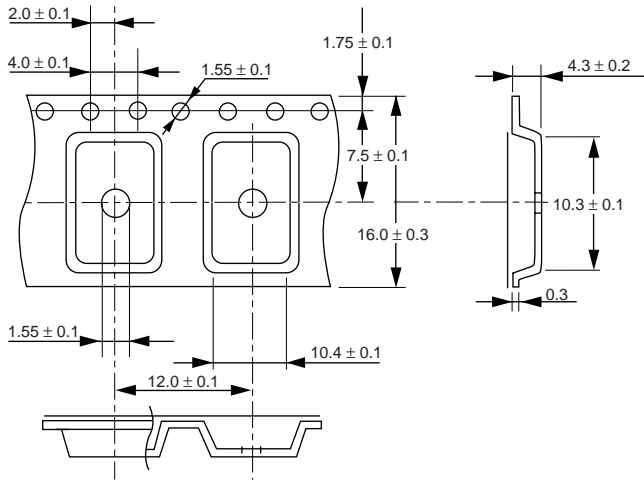


NORMALIZED LIMIT CURRENT vs. AMBIENT TEMPERATURE

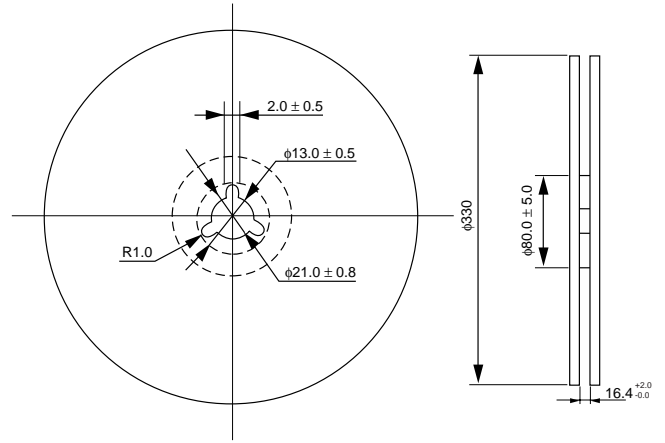


TAPING SPECIFICATIONS (Units in mm)

OUTLINE AND DIMENSIONS (TAPE)



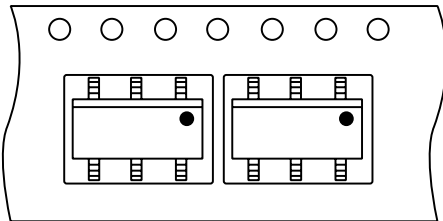
OUTLINE AND DIMENSIONS (REEL)



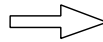
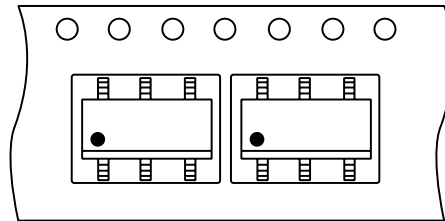
Notes:
1. Packing : 1000 pcs/reel

TAPE DIRECTION

PS7342CL-1A-E3



PS7342CL-1A-E4



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