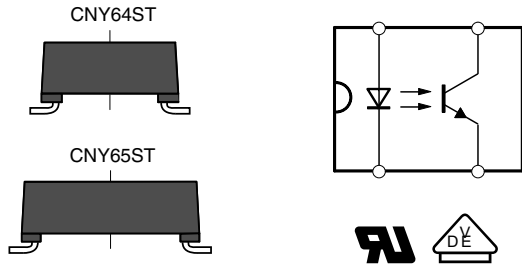




Optocoupler, Phototransistor Output, Very High Isolation Voltage



17187-6

DESCRIPTION

The CNY6XST, the high isolation voltage SMD version optocouplers consist of a phototransistor optically coupled to a gallium arsenide infrared-emitting diode in a 4 pin plastic package.

The single components are mounted opposite one another, providing a distance between input and output for highest safety requirements of > 3 mm.

VDE STANDARDS

These couplers perform safety functions according to the following equipment standards:

- **DIN EN 60747-5-2 (VDE 0884)**
Optocoupler for electrical safety requirements
- **IEC 60065**
Safety for mains-operated electronic and related household apparatus
- **VDE 0160**
Electronic equipment for electrical power installation

FEATURES

- Rated recurring peak voltage (repetitive)
 $V_{IORM} = 1450 V_{peak}$
- Thickness through insulation ≥ 3 mm
- Creepage current resistance according to VDE 0303/IEC 60112 comparative tracking index: **CTI ≥ 475**
- Moisture sensitivity level MSL4
- Follow defined storage and soldering requirements
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



Note

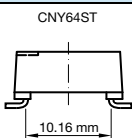
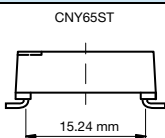
** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

APPLICATIONS

- Solar and wind power diagnostic, monitoring, and communication equipment
- Welding equipment
- High voltage motors
- Switch-mode power supplies
- Line receiver
- Computer peripheral interface
- Microprocessor system interface
- Circuits for safe protective separation against electrical shock according to safety class II (reinforced isolation):
- for appl. class I to IV at mains voltage ≤ 300 V
- for appl. class I to IV at mains voltage ≤ 600 V
- for appl. class I to III at mains voltage ≤ 1000 V according to DIN EN 60747-5-2 (VDE 0884)

AGENCY APPROVALS

- DIN EN 60747-5-2 (VDE 0884) (pending)
- UL1577, file no. E76222 system code H, J, and K (pending)
- VDE related features:
- rated impulse voltage (transient overvoltage),
 $V_{IOTM} = 12 kV_{peak}$
- isolation test voltage (partial discharge test voltage),
 $V_{pd} = 2.8 kV_{peak}$

ORDERING INFORMATION				
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">C</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">N</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Y</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">6</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">#</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">X</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">X</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">X</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">S</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">T</div> </div>	PART NUMBER		PACKAGE OPTION	CTR BIN
				
	10.16 mm	15.24 mm		
AGENCY CERTIFIED/PACKAGE	CTR (%)			
	5 mA			
UL, VDE	50 to 300	50 to 150	80 to 240	100 to 300
SMD-4 HV, 400 mil high isolation distance	CNY64ST	CNY64AYST	CNY64ABST	CNY64AGRST
SMD-4 HV, 600 mil high isolation distance	CNY65ST	CNY65AYST	CNY65ABST	CNY65AGRST



ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
INPUT				
Reverse voltage		V_R	5	V
Forward current		I_F	75	mA
Forward surge current	$t_p \leq 10\text{ }\mu\text{s}$	I_{FSM}	1.5	A
Power dissipation		P_{diss}	120	mW
Junction temperature		T_j	100	$^{\circ}\text{C}$
OUTPUT				
Collector emitter voltage		V_{EEO}	32	V
Emitter collector voltage		V_{ECO}	7	V
Collector current		I_C	50	mA
Collector peak current	$t_p/T = 0.5, t_p \leq 10\text{ ms}$	I_{CM}	100	mA
Power dissipation		P_{diss}	130	mW
Junction temperature		T_j	100	$^{\circ}\text{C}$
COUPLER				
AC isolation test voltage CNY64AxxxST	$t = 1\text{ min}$	V_{ISO}	8.2	kV_{RMS}
DC isolation test voltage CNY65AxxxST	$t = 1\text{ s}$	V_{ISO}	13.9	kV
Total power dissipation		P_{tot}	250	mW
Ambient temperature range		T_{amb}	- 55 to + 85	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 55 to + 100	$^{\circ}\text{C}$
Soldering temperature	2 mm from case, $\leq 10\text{ s}$	T_{sld}	260	$^{\circ}\text{C}$

Note

- Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of this document. Exposure to absolute maximum ratings for extended periods of the time can adversely affect reliability.

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
INPUT						
Forward voltage	$I_F = 50\text{ mA}$	V_F		1.32	1.6	V
Junction capacitance	$V_R = 0, f = 1\text{ MHz}$	C_j				

Note

- Minimum and maximum values are testing requirements. Typical values are characteristics of the device and are the result of engineering evaluation. Typical values are for information only and are not part of the testing requirements.





CNY64AYST, CNY64ABST, CNY64AGRST, CNY65AYST, CNY65ABST, CNY65AGRST

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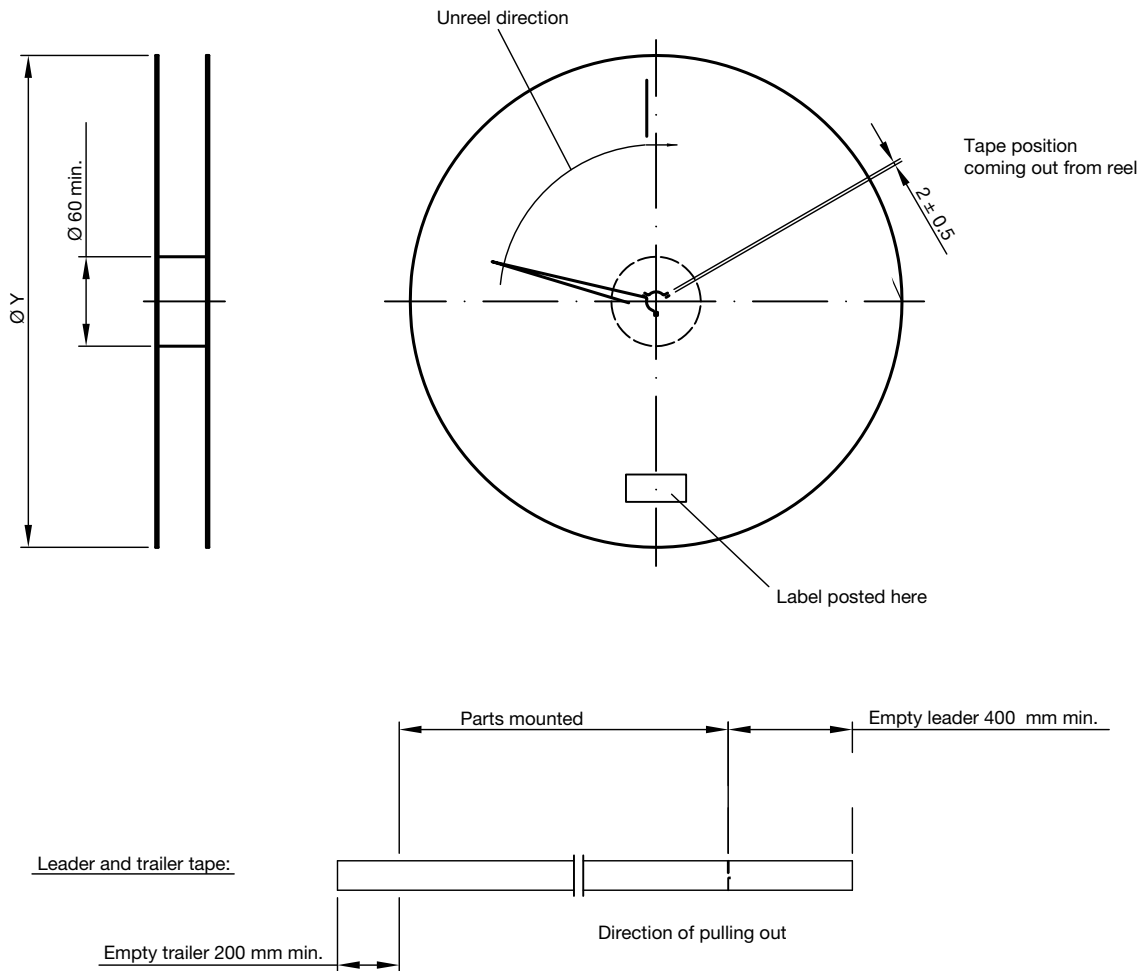








REEL DIMENSIONS in millimeters



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