





<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
<b>INPUT</b>				
Reverse voltage		$V_R$	6	V
DC forward current		$I_F$	60	mA
Surge forward current	$t \leq 10\text{ }\mu\text{s}$	$I_{FSM}$	2.5	A
Power dissipation		$P_{diss}$	70	mW
<b>OUTPUT</b>				
Collector emitter breakdown voltage		$BV_{CEO}$	70	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
Output power dissipation		$P_{diss}$	150	mW
<b>COUPLER</b>				
Isolation test voltage between emitter and detector	$t = 1\text{ min}$	$V_{ISO}$	5000	$V_{RMS}$
Creepage distance			$\geq 7$	mm
Clearance distance			$\geq 7$	mm
Isolation thickness between emitter and detector			$\geq 0.4$	mm
Comparative tracking index per DIN IEC 112/VDE 0303, part 1			$\geq 175$	
Isolation resistance	$V_{IO} = 500\text{ V}$	$R_{IO}$	$\geq 10^{11}$	$\Omega$
Storage temperature range		$T_{stg}$	- 55 to + 150	$^{\circ}\text{C}$
Ambient temperature range		$T_{amb}$	- 55 to + 110	$^{\circ}\text{C}$
Junction temperature		$T_j$	100	$^{\circ}\text{C}$
Soldering temperature <sup>(1)</sup>	2 mm from case, $\leq 10\text{ s}$	$T_{sld}$	260	$^{\circ}\text{C}$
Total power dissipation		$P_{diss}$	220	mW

**Notes**

- 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.
- Refer to reflow profile for soldering conditions for surface mounted parts (SMD). Refer to wave profile for soldering conditions for through hole parts (DIP).

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
<b>INPUT</b>							
Forward voltage	$I_F = 60\text{ mA}$		$V_F$		1.39	1.65	V
Breakdown voltage	$I_R = 10\text{ }\mu\text{A}$		$V_{BR}$	6			V
Reverse current	$V_R = 6\text{ V}$		$I_R$		0.01	10	$\mu\text{A}$
Capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$		$C_O$		25		pF
<b>OUTPUT</b>							
Collector emitter capacitance	$V_{CE} = 5\text{ V}, f = 1\text{ MHz}$		$C_{CE}$		5.2		pF
Base collector capacitance	$V_{CE} = 5\text{ V}, f = 1\text{ MHz}$		$C_{BC}$		6.5		pF
Emitter base capacitance	$V_{CE} = 5\text{ V}, f = 1\text{ MHz}$		$C_{EB}$		7.5		pF
<b>COUPLER</b>							
Collector emitter, saturation voltage	$I_F = 10\text{ mA}, I_C = 2.5\text{ mA}$		$V_{CEsat}$		0.25	0.4	V
Coupling capacitance			$C_C$		0.6		pF
Collector emitter, leakage current	$V_{CE} = 10\text{ V}$	CNY17F-1	$I_{CEO}$		2	50	nA
		CNY17F-2	$I_{CEO}$		2	50	nA
		CNY17F-3	$I_{CEO}$		5	100	nA
		CNY17F-4	$I_{CEO}$		5	100	nA

**Note**

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



CURRENT TRANSFER RATIO ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
$I_C/I_F$	$I_F = 10\text{ mA}$	CNY17F-1	CTR	40		80	%
		CNY17F-2	CTR	63		125	%
		CNY17F-3	CTR	100		200	%
		CNY17F-4	CTR	160		320	%
	$I_F = 1\text{ mA}$	CNY17F-1	CTR	13	30		%
		CNY17F-2	CTR	22	45		%
		CNY17F-3	CTR	34	70		%
		CNY17F-4	CTR	56	90		%

**Note**

- Current transfer ratio  $I_C/I_F$  at  $V_{CE} = 5\text{ V}$ ,  $25\text{ }^{\circ}\text{C}$  and collector emitter leakage current by dash number.

SWITCHING CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
<b>LINEAR OPERATION</b> (without saturation)							
Turn-on time	$I_F = 10\text{ mA}$ , $V_{CC} = 5\text{ V}$ , $R_L = 75\text{ }\Omega$		$t_{on}$		3		$\mu\text{s}$
Rise time	$I_F = 10\text{ mA}$ , $V_{CC} = 5\text{ V}$ , $R_L = 75\text{ }\Omega$		$t_r$		2		$\mu\text{s}$
Turn-off time	$I_F = 10\text{ mA}$ , $V_{CC} = 5\text{ V}$ , $R_L = 75\text{ }\Omega$		$t_{off}$		2.3		$\mu\text{s}$
Fall time	$I_F = 10\text{ mA}$ , $V_{CC} = 5\text{ V}$ , $R_L = 75\text{ }\Omega$		$t_f$		2		$\mu\text{s}$
Cut-off frequency	$I_F = 10\text{ mA}$ , $V_{CC} = 5\text{ V}$ , $R_L = 75\text{ }\Omega$		$f_{CO}$		110		kHz
<b>SWITCHING OPERATION</b> (with saturation)							
Turn-on time	$I_F = 20\text{ mA}$	CNY17F-1	$t_{on}$		3		$\mu\text{s}$
	$I_F = 10\text{ mA}$	CNY17F-2	$t_{on}$		4.2		$\mu\text{s}$
		CNY17F-3	$t_{on}$		4.2		$\mu\text{s}$
		CNY17F-4	$t_{on}$		6		$\mu\text{s}$
Rise time	$I_F = 20\text{ mA}$	CNY17F-1	$t_r$		2		$\mu\text{s}$
	$I_F = 10\text{ mA}$	CNY17F-2	$t_r$		3		$\mu\text{s}$
		CNY17F-3	$t_r$		3		$\mu\text{s}$
		CNY17F-4	$t_r$		4.6		$\mu\text{s}$
Turn-off time	$I_F = 20\text{ mA}$	CNY17F-1	$t_{off}$		18		$\mu\text{s}$
	$I_F = 10\text{ mA}$	CNY17F-2	$t_{off}$		23		$\mu\text{s}$
		CNY17F-3	$t_{off}$		23		$\mu\text{s}$
		CNY17F-4	$t_{off}$		25		$\mu\text{s}$
Fall time	$I_F = 20\text{ mA}$	CNY17F-1	$t_f$		11		$\mu\text{s}$
	$I_F = 10\text{ mA}$	CNY17F-2	$t_f$		14		$\mu\text{s}$
		CNY17F-3	$t_f$		14		$\mu\text{s}$
		CNY17F-4	$t_f$		15		$\mu\text{s}$



95 10804-3

Fig. 1 - Test Circuit, Non-Saturated Operation



$t_p$	Pulse duration	$t_s$	Storage time
$t_d$	Delay time	$t_f$	Fall time
$t_r$	Rise time	$t_{off} (= t_s + t_f)$	Turn-off time
$t_{on} (= t_d + t_r)$	Turn-on time		

96 11698

Fig. 3 - Switching Times



95 10843

Fig. 2 - Test Circuit, Saturated Operation

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



Fig. 4 - Forward Voltage vs. Forward Current



Fig. 5 - Collector Current vs. Collector Emitter Voltage (NS)

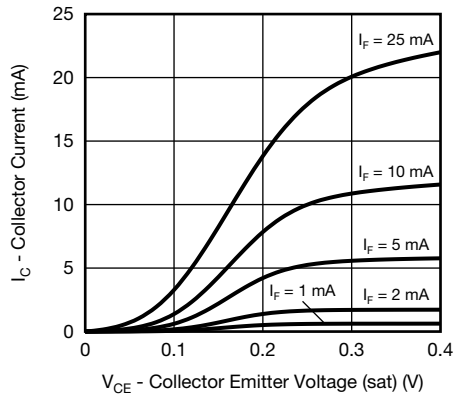


Fig. 6 - Collector Current vs. Collector Emitter Voltage (sat)



Fig. 9 - Normalized CTR (sat) vs. Ambient Temperature

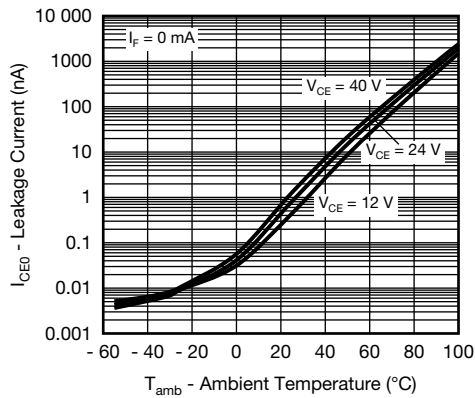


Fig. 7 - Leakage Current vs. Ambient Temperature



Fig. 10 - Normalized CTR (NS) vs. Forward Current

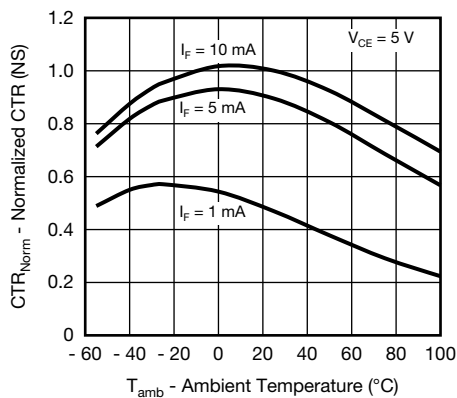


Fig. 8 - Normalized CTR (NS) vs. Ambient Temperature



Fig. 11 - Normalized CTR (sat) vs. Forward Current



Fig. 12 - CTR Frequency vs. Phase Angle

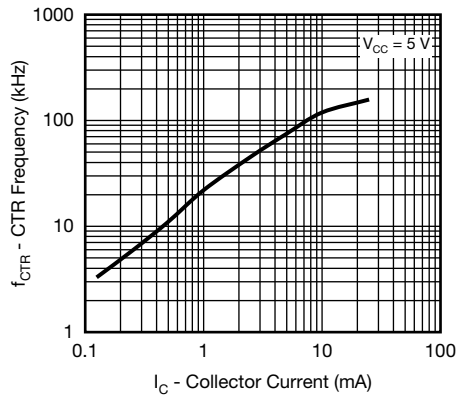


Fig. 13 - CTR Frequency vs. Collector Current

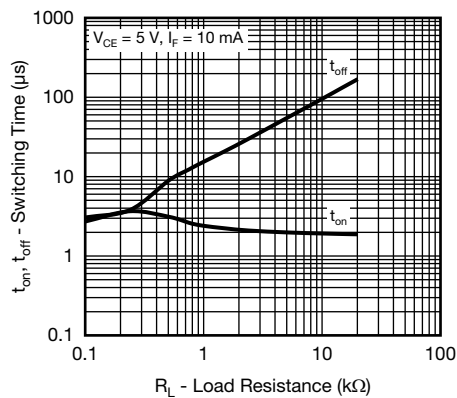


Fig. 14 - Switching Time vs. Load Resistance

**PACKAGE DIMENSIONS** in millimeters



22530

**Option 6**



**Option 7**



**Option 9**



20802-34

**PACKAGE MARKING**



**Notes**

- VDE logo is only marked on option 1 parts. Option information is not marked on the part.
- Tape and reel suffix (T) is not part of the package marking.



TUBE AND TAPE INFORMATION

DEVICES PER TUBE			
TYPE	UNITS/TUBE	TUBES/BOX	UNITS/BOX
DIP-6	50	40	2000



22537-1

Fig. 15 - Tape and Reel Drawing, 1000 Units per Reel





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- Консультации по применению компонента;
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- Техническая поддержка проекта;
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