TDB 0555 -555
TDB 0555 B-555
TDC 0555 -555

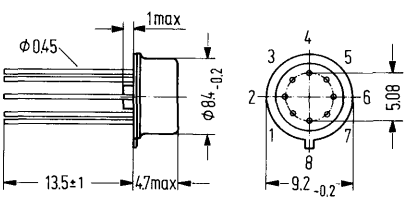
TDB 0555 and TDC 0555 are monolithic integrated timing circuits in packages similar to 5 G 8 DIN 14873 (TO-99), which by their excellent performance qualities are well suited for accurate time delays and oscillation. Additional terminals are provided for triggering or resetting if desired.

Features:
- High output current
- TTL compatible
- Temperature stability of .05% per K
- Adjustable duty cycle
- Timing through nine decades

Type	Ordering codes
TDB 0555	Q67000-A1043
TDB 0555 B	Q67000-A1044
TDC 0555	Q67000-A1045

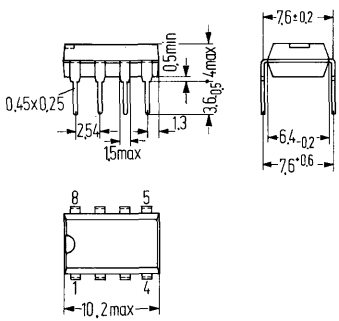
Package outlines

TDB 0555 and TDC 0555



Case similar 5 G 8 DIN 41873 (TO-99)
Weight approx. 1.2 g

TDB 0555 B

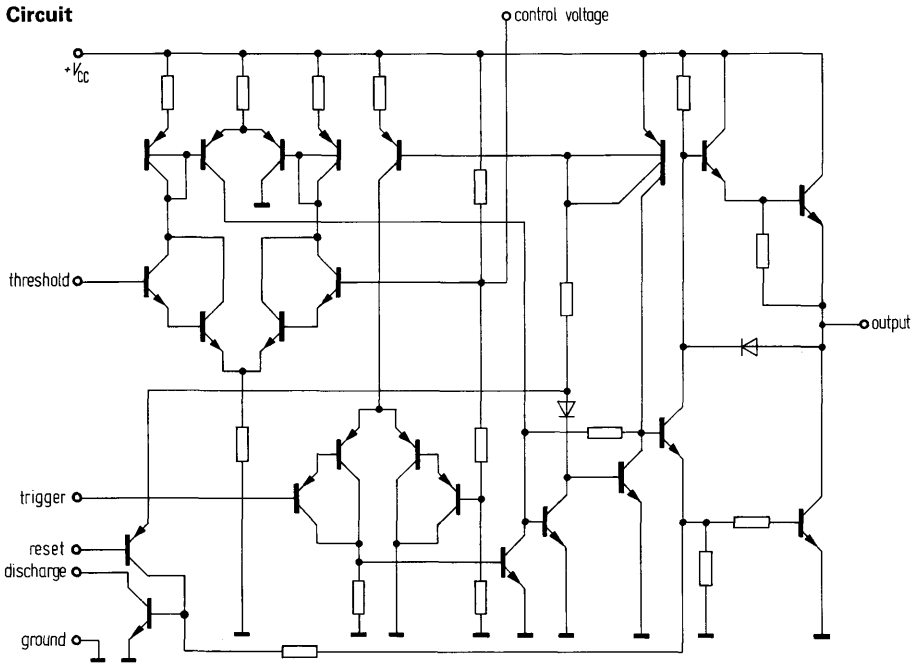


Plastic plug-in package, 8 pins
20 A 8 DIN 41866, weight approx. .7 g

Dimensions in mm

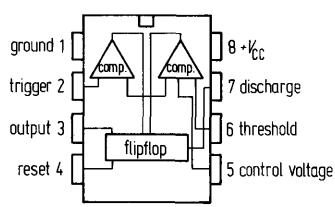
Maximum ratings		TDB 0555 TDB 0555 B	TDC 0555	
Supply voltage	V_{CC}	16	18	V
Junction temperature	i_j	150	150	°C
Storage temperature	T_S	−65 to +150	−65 to +150	°C
Thermal resistance:				
System-case (TDB 0555/TDC 0555)	$R_{thScase}$	80	80	K/W
System-ambient air (TDB 0555/TDC 0555)	R_{thSamb}	190	190	K/W
System-ambient air (TDB 0555 B)	R_{thSamb}	140		K/W
Operating range				
Supply voltage	V_{CC}	4.5 to 16	4.5 to 18	V
Ambient temperature in operation	T_{amb}	0 to +70	−55 to +125	°C

Circuit

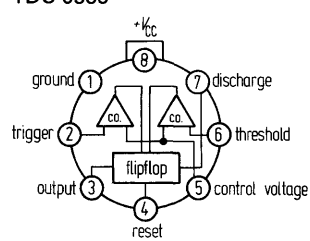


Pin connection

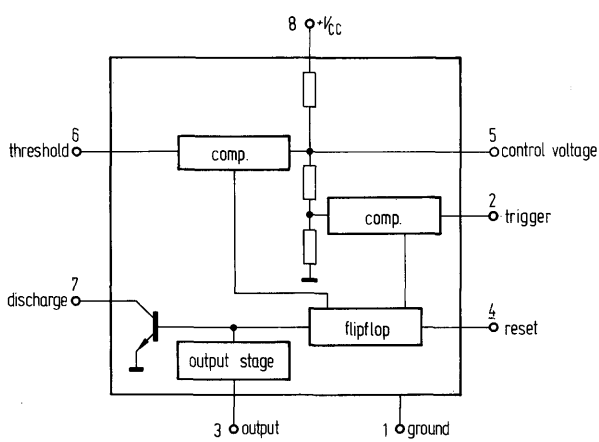
TDB 0555 B



TDB 0555
TDC 0555



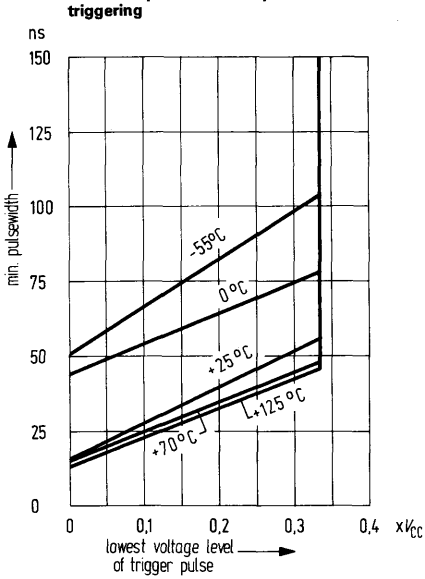
Block diagram



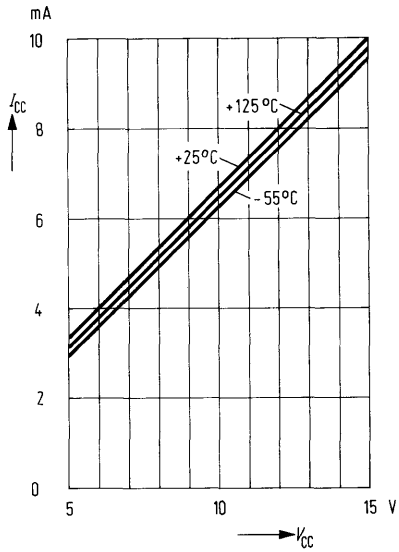
Operating characteristics (V_{CC} = 15 V, T_{amb} = 25°C unless otherwise specified)		**TDB 0555 TDB 0555 B**			**TDC 0555**			
		min	typ	max	min	typ	max	
Supply current ($R_L = \infty$, $I_q < 1$ mA)	I_{CC}		10	15		10	12	mA
Frequency range	f	10^{-3}		10^6	10^{-3}		10^6	Hz
Timing error (R_A = 1 to 100 kΩ, C = .1 µF) (see appl.)								
Initial accuracy			1			.5	2	%
Drift with temperature			50			30	100	ppm/K
Drift with supply voltage			.1			.05	.2	%/V
Threshold voltage			$^2/_3 \times V_{CC}$			$^2/_3 \times V_{CC}$		
Trigger voltage			5		4.8	5	5.2	V
Trigger current			.5			.5		µA
Reset voltage		.4	.7	1.0	.4	.7	1.0	V
Reset current			.1			.1		mA
Threshold current ($R_A \leq 20$ MΩ)			.1	.25		.1	.25	µA
Control voltage level		9	10	11	9.6	10	10.4	V
Output voltage drop (low)	V_{qsat}							
I_{sink} = 10 mA			.1	.25		.1	.15	V
I_{sink} = 50 mA			.4	.75		.4	.5	V
I_{sink} = 100 mA			2.0	2.5		2.0	2.2	V
I_{sink} = 200 mA			2.5			2.5		V
Output voltage drop (high)	V_q							
I_{source} = 200 mA			12.5			12.5		V
I_{source} = 100 mA		12.75	13.3		13.0	13.3		V
Rise time of output			100			100		ns
Fall time of output			100			100		ns
(V_{CC} = 5 V, T_{amb} = 25°C unless otherwise specified)								
Supply current ($R_L = \infty$, $I_q < 1$ mA)			3	6		3	5	mA
Trigger voltage			1.67		1.45	1.67	1.9	V
Control voltage level		2.6	3.33	4	2.9	3.33	3.8	V
Output voltage drop (low)	V_{qsat}							
I_{sink} = 5 mA			.25	.35				V
I_{sink} = 8 mA						.1	.25	V
Output voltage drop (high)	V_q							
I_{source} = 100 mA		2.75	3.3		3.0	3.3		V
Timing error (R_A = 1 to 100 kΩ, C = .1 µF (see appl.)								
Initial accuracy			1			.5	2	%
Drift with temperature			50			30	100	ppm/K
Drift with supply voltage			.1			.05	.2	%/V

Typical characteristics

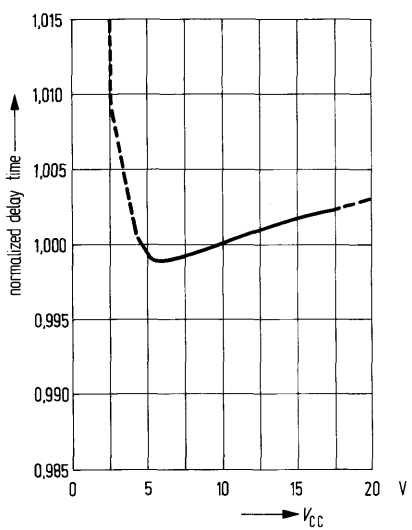
Minimum pulse width required for triggering



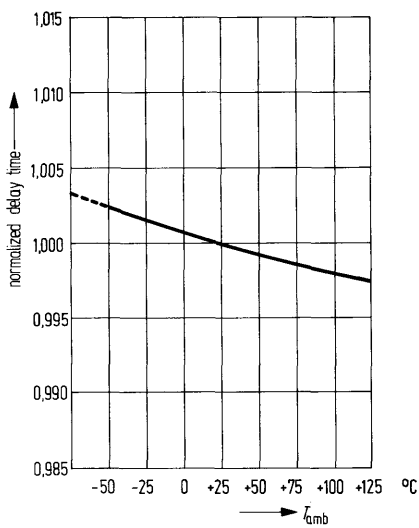
Supply current vs supply voltage



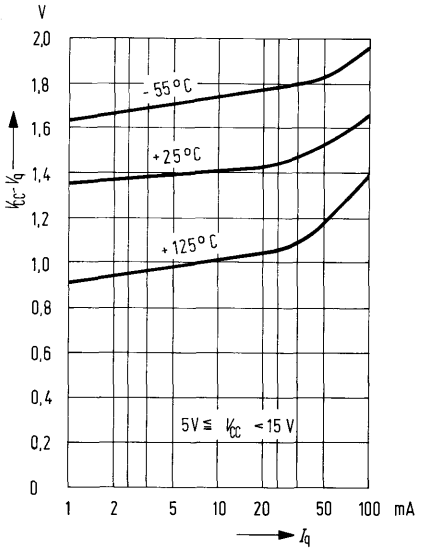
Delay time vs supply voltage



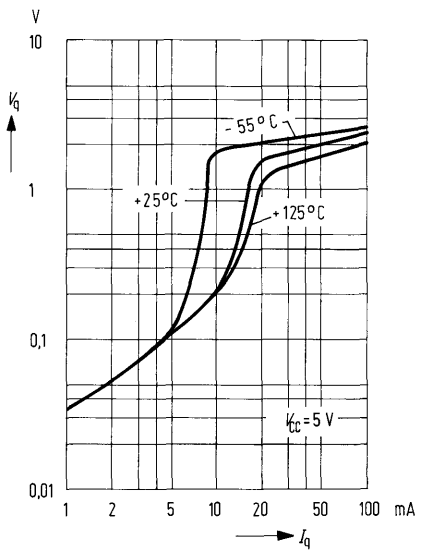
Delay time vs temperature



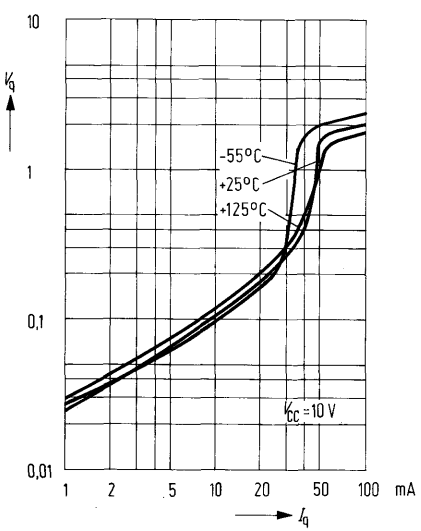
Low output voltage vs output sink current



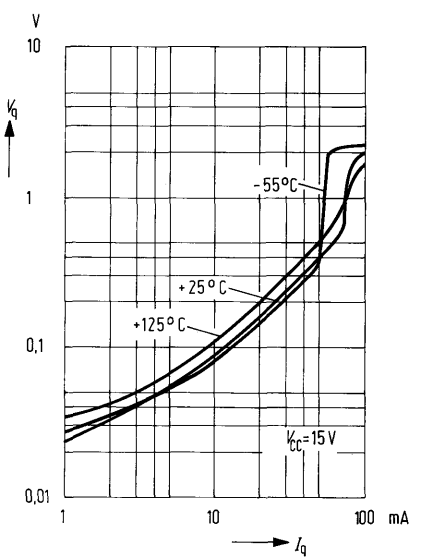
High output voltage vs output source current



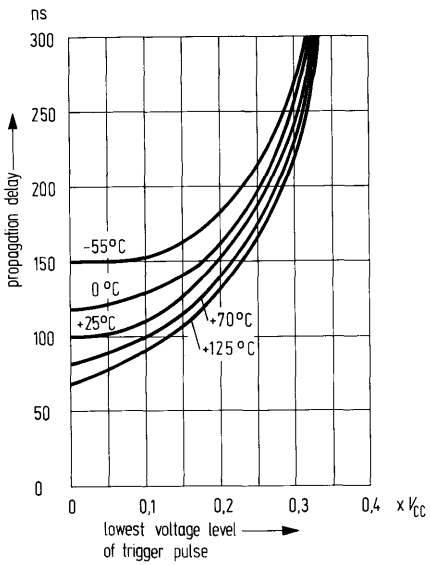
Low output voltage vs output sink current



Low output voltage vs output sink current



Propagation delay vs voltage level of trigger pulse



Application: monostable multivibrator