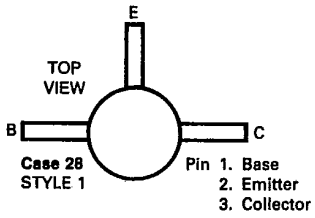
MICRO-T (continued)

MMT72 — NPN SWITCHING TRANSISTOR



- designed for high-speed, low-current switching applications where high-density packaging is required.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	10	Vdc
Collector-Emitter Voltage	V_{CES}	12	Vdc
Emitter-Base Voltage	V_{EB}	4.0	Vdc
Collector Current-Continuous	I_C	200	mAdc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	250 2.0	mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.50	°C/mW

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Parameter	Test Conditions	Min	Max	Unit
OFF CHARACTERISTICS				
BV_{CEO}	I_C = 10 mAdc, I_B = 0	10	—	Vdc
BV_{CES}	I_C = 10 μAdc, V_{BE} = 0	12	—	Vdc
BV_{EBO}	I_E = 10 μAdc, I_C = 0	4.0	—	Vdc
I_{CBO}	V_{CB} = 10 Vdc, I_E = 0	—	100	nAdc
ON CHARACTERISTICS				
h_{FE}	I_C = 10 mAdc, V_{CE} = 2.0 Vdc	30	—	—
$V_{CE(sat)}$	I_C = 10 mAdc, I_B = 1.0 mAdc	—	0.3	Vdc
DYNAMIC CHARACTERISTICS				
f_T	I_C = 10 mAdc, V_{CE} = 10 Vdc, f = 100 MHz	400	—	MHz
C_{ob}	V_{CB} = 5.0 Vdc, I_E = 0, f = 1.0 MHz	—	6.0	pF

14

continued

MICRO-T (continued) **MMT72** (continued)

SWITCHING CHARACTERISTICS

t_{on}	V_{CC} = 3.0 Vdc, $V_{BE(off)}$ = 1.5 Vdc, I_C = 10 mAdc, I_{B1} = 3.0 mAdc	—	20	ns
t_{off}	V_{CC} = 3.0 Vdc, I_C = 10 mAdc, I_{B1} = 3.0 mAdc, I_{B2} = 1.5 mAdc	—	30	ns

FIGURE 1 – t_{on} CIRCUIT

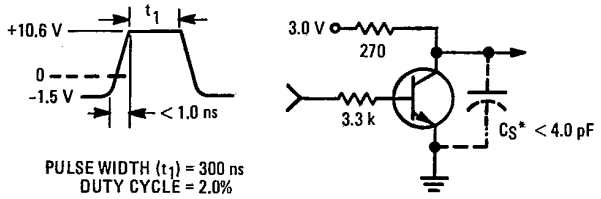
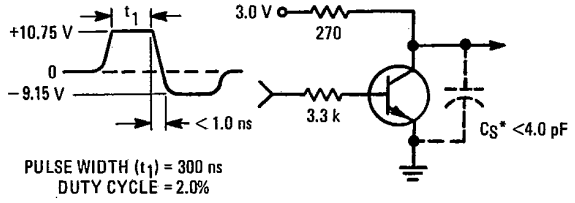


FIGURE 2 – t_{off} CIRCUIT



*Total shunt capacitance of test jig and connectors.

14