

6367255 MOTOROLA SC (DIODES/OPTO)

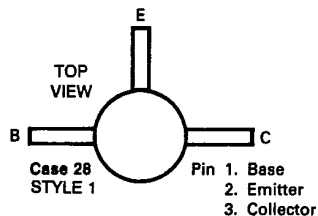
34C 38217 D

MICRO-T (continued)

7-31-17

## MMT2907 — PNP

### GENERAL PURPOSE TRANSISTOR



- designed for general-purpose switching and amplifier applications, where high-density packaging is required.

#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	40	Vdc
Collector-Base Voltage	$V_{CB}$	60	Vdc
Emitter-Base Voltage	$V_{EB}$	5.0	Vdc
Collector Current — Continuous	$I_C$	300	mA
Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	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 ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions	Min	Typ	Max	Unit
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#### OFF CHARACTERISTICS

$BV_{CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	40	—	—	Vdc
$BV_{CBO}$	$I_C = 10 \text{ }\mu\text{A}, I_E = 0$	60	—	—	Vdc
$BV_{EBO}$	$I_E = 10 \text{ }\mu\text{A}, I_C = 0$	5.0	—	—	Vdc
$I_{CBO}$	$V_{CB} = 50 \text{ Vdc}, I_E = 0$	—	—	50	nA

#### ON CHARACTERISTICS

$h_{FE}$	$I_C = 1.0 \text{ mA}, V_{CE} = 10 \text{ Vdc}$ $I_C = 10 \text{ mA}, V_{CE} = 10 \text{ Vdc}$ $I_C = 150 \text{ mA}, V_{CE} = 10 \text{ Vdc}$ $I_C = 300 \text{ mA}, V_{CE} = 10 \text{ Vdc}$	50 75 100 30	— — — —	— — 300 —	—
$V_{CE(sat)}$	$I_C = 150 \text{ mA}, I_B = 15 \text{ mA}$ $I_C = 300 \text{ mA}, I_B = 30 \text{ mA}$	— —	0.15 0.24	0.4 1.6	Vdc
$V_{BE(sat)}$	$I_C = 150 \text{ mA}, I_B = 15 \text{ mA}$ $I_C = 300 \text{ mA}, I_B = 30 \text{ mA}$	— —	0.87 0.94	1.3 2.6	Vdc

continued

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MICRO-T (continued)

MMT2907 (continued)

## DYNAMIC CHARACTERISTICS

$f_T$	$I_C = 20 \text{ mAdc}$ , $V_{CE} = 10 \text{ Vdc}$ , $f = 100 \text{ MHz}$	200	340	—	MHz
$C_{ob}$	$V_{CB} = 10 \text{ Vdc}$ , $I_E = 0$ , $f = 100 \text{ MHz}$	—	4.8	8.0	pF
$C_{ib}$	$V_{BE} = 2.0 \text{ Vdc}$ , $I_C = 0$ , $f = 100 \text{ MHz}$	—	—	30	pF

## SWITCHING CHARACTERISTICS

$t_{on}$	$V_{CC} = 30 \text{ Vdc}$ , $I_C = 150 \text{ mAdc}$ , $V_{BE(off)} = 0$ , $I_{B1} = 15 \text{ mAdc}$	—	20	—	ns
$t_{off}$	$V_{CC} = 30 \text{ Vdc}$ , $I_C = 150 \text{ mAdc}$ , $I_{B1} = I_{B2} = 15 \text{ mAdc}$	—	120	—	ns

FIGURE 1 — TURN-ON TIME TEST CIRCUIT

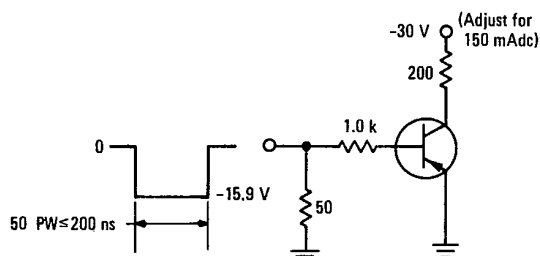


FIGURE 2 — TURN-OFF TIME TEST CIRCUIT

