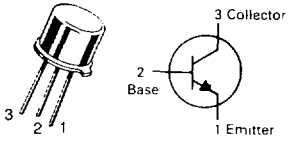
MM3005
MM3007

CASE 79-04, STYLE 1
TO-39 (TO-205AD)



AUDIO TRANSISTORS

NPN SILICON

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MAXIMUM RATINGS

Rating	Symbol	MM3005	MM3007	Unit
Collector-Emitter Voltage	V_{CEO}	60	100	Vdc
Collector-Base Voltage	V_{CBO}	80	120	Vdc
Emitter-Base Voltage	V_{EBO}	5.0		Vdc
Collector Current — Continuous	I_C	2.5		Adc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	1.0 5.71		Watt mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	8.0 45.6		Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +200		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	175	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	22	°C/W

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage(1) (I_C = 10 mAdc, I_B = 0)	 MM3005 MM3007	$V_{(BR)CEO}$	 60 100	 — —	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	 MM3005 MM3007	$V_{(BR)CBO}$	 80 120	 — —	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CB} = 60 Vdc, I_E = 0) (V_{CB} = 100 Vdc, I_E = 0)	 MM3005 MM3007	I_{CBO}	 — —	 100 100	nAdc
Emitter Cutoff Current (V_{EB} = 4.0 Vdc, I_C = 0)		I_{EBO}	—	100	nAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 1.0 mAdc, V_{CE} = 1.0 Vdc) (I_C = 150 mAdc, V_{CE} = 1.0 Vdc)(1) (I_C = 250 mAdc, V_{CE} = 1.0 Vdc)(1)	 All Types MM3005 MM3007	h_{FE}	 40 50 50	 — 250 250	—
Collector-Emitter Saturation Voltage(1) (I_C = 150 mAdc, I_B = 15 mAdc)		$V_{CE(sat)}$	—	0.35	Vdc
Base-Emitter On Voltage(1) (I_C = 150 mAdc, V_{CE} = 1.0 Vdc)		$V_{BE(on)}$	0.60	0.75	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product(1) (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)		f_T	50	—	MHz
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 1.0 MHz)		C_{obo}	—	15	pF

(1) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.