

CV10253 CV12253

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

AMPLIFIER TRANSISTOR

NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	65	V _{dc}
Collector-Base Voltage	V _{CB0}	65	V _{dc}
Emitter-Base Voltage	V _{EBO}	5	V _{dc}
Collector Current - Continuous	I _C	0.6	A _{dc}
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	0.6 4.0	Watt mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +175	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	250	°C/W

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Sustaining Voltage (I _C = 10 mA, I _B = 0)	V _{CEO(sus)}	65		V
Collector Cutoff Current (V _{CB} = 50 V, I _E = 0)	I _{CB0}		20	nA
Emitter Cutoff Current (I _{EBO} (1) V _{EB} = 3 V, I _C = 0) (I _{EBO} (2) V _{EB} = 5 V, I _C = 0)	I _{EBO}		20 2	nA μA
Collector Cutoff Current (V _{CE} = 50 V, T _A = 100°C)	I _{CEO}		80	μA

ON CHARACTERISTICS

DC Current Gain (h _{21e} (1) I _C = 1.0 mA, V _{CE} = 0.4 V) (h _{21e} (2) I _C = 10 mA, V _{CE} = 0.4 V) (h _{21e} (3) I _C = 150 mA, V _{CE} = 0.75 V)(1) (h _{21e} (4) I _C = 50 mA, V _{CE} = 0.4 V)	h _{FE}	40 50 25 35	— 200 — —	
Base-Emitter Saturation Voltage(1) (I _C = 30 mA, I _B = 1 mA) (I _C = 150 mA, I _B = 15 mA)	V _{BE(sat)}		0.9 1.3	V

SMALL SIGNAL CHARACTERISTICS

Current Gain Bandwidth Product (I _C = 50 mA, V _{CE} = 10 V, f = 35 MHz)	f _T	60		MHz
Storage Time (V _{CC} = 45 V, I _C = 100 mA, I _{B1} = I _{B2} = 10 mA)	CV10253	172	250	ns
	CV12253		550	
Output Capacitance (V _{CB} = 10 V, f = 1 MHz)	C _{ob}		20	pF

(1) Pulsed: Pulse Duration = 300 μs, Duty Cycle = 1%.