CV9507

(CECC 50004-050)
CASE 79, STYLE 1
TO-39 (TO-205AD)

SWITCHING TRANSISTOR

PNP SILICON

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MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	65	Vdc
Collector-Base Voltage	V_{CBO}	65	Vdc
Emitter-Base Voltage	V_{EBO}	5	Vdc
Collector Current – Continuous	I_C	0.6	Adc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	0.5 3.33	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 Case	$R_{\theta JC}$	35	°C/W

Refer to 2N2904 for graphs.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (I_C = 10 mA, I_B = 0)	$V_{CEO(sus)}$	65		Vdc
Collector Cutoff Current (V_{CB} = 50 V, I_E = 0) (V_{CB} = 50 V, I_E = 0, T_A = 100°C)	I_{CBO}		75 1	nA µA
Emitter Cutoff Current (V_{EB} = 3 V, I_C = 0) (V_{EB} = 5 V, I_C = 0)	I_{EBO}		100 10	nA µA
ON CHARACTERISTICS				
Collector-Emitter Saturation Voltage(1) (I_C = 150 mA, I_B = 15 mA)	$V_{CE(sat)}$		0.4	Vdc
Base-Emitter Saturation Voltage(1) (I_C = 150 mA, I_B = 15 mA) (I_C = 30 mA, I_B = 1 mA)	$V_{BE(sat)}$		1.3 0.9	Vdc
DC Current Gain (I_C = 1 mA, V_{CE} = 0.4 V) (I_C = 10 mA, V_{CE} = 0.4 V) (I_C = 50 mA, V_{CE} = 0.4 V) (I_C = 150 mA, V_{CE} = 0.4 V)	h_{FE}	40 50 20 10	200	
SMALL SIGNAL CHARACTERISTICS				
Current Gain Bandwidth Product (I_C = 50 mA, V_{CE} = 10 V, f = 20 MHz)	f_T	50		MHz
Output Capacitance (V_{CB} = 10 V, f = 1 MHz)	C_{obo}		12	pF
SWITCHING CHARACTERISTICS				
Storage Time (See Figure 1) (V_{CC} = −4 V, I_C = −100 mA) (I_{B1} = I_{B2} = 10 mA)	t_s		250	ns

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

FIGURE 1 – SWITCHING TIME TEST CIRCUIT