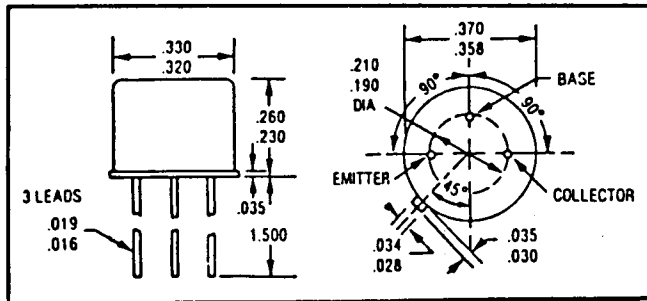


X06141

2N5094 AND 2N5096**1 AMP****HIGH VOLTAGE PNP TRANSISTOR
450-500 VOLTS****SSDII**14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396**CASE STYLE W
JEDEC TO-5****FEATURES**

- BVCBO TO 500 VOLTS
- LOW SATURATION VOLTAGE
- LOW LEAKAGE AT HIGH TEMPERATURE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH 2N5095 THRU 2N5097
- 2N5091 AND 2N5093 ALSO AVAILABLE

MAXIMUM RATINGS

Rating	Symbol	2N5094	2N5096	Unit
Collector - Emitter Voltage	V_{CEO}	400	450	Volts
$R_{BE} = 1 \text{ K Ohms}$	V_{CER}	450	500	Volts
Collector - Base Voltage	V_{CBO}	450	500	Volts
Emitter - Base Voltage	V_{EBO}	6.0		Volts
Collector Current	I_C	1.0		Amps
Base Current	I_B	0.5		Amps
Total Device Dissipation @ $T_C = 100^\circ\text{C}$	P_D	2		Watts
Derate above 100 °C		20		mW/°C
Operating and Storage Temperature	T_j, T_{stg}	-65 to +200		°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	50	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ($I_C = 50 \text{ mAdc}$)	BV_{CEO}^*	400 450		Vdc
($I_C = 100 \text{ uAdc}, R_{BE} = 1 \text{ K Ohms}$)	BV_{CER}^*	450 500		Vdc
Collector - Base Breakdown Voltage ($I_C = 100 \text{ uAdc}$)	BV_{CBO}	450 500		Vdc
Emitter - Base Breakdown Voltage ($I_E = 20 \text{ uAdc}$)	BV_{EBO}	6		Vdc

ELECTRICAL CHARACTERISTICS

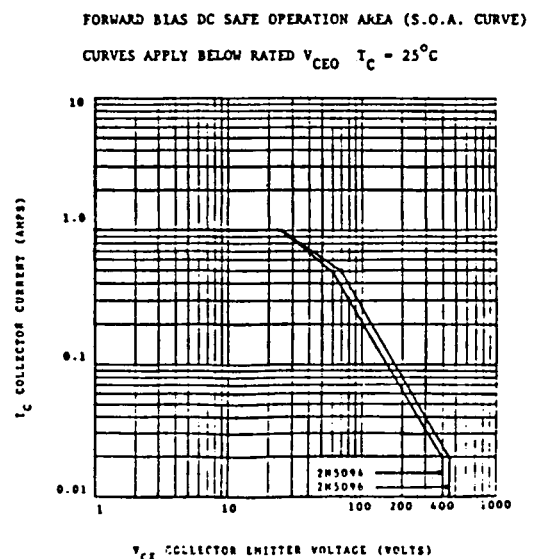
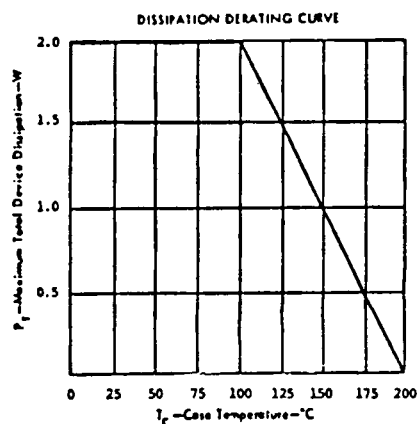
Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current 2N5094 VCB= 450 Vdc 2N5096 VCB= 500 Vdc	I_{CBO}		500	nA dc
Emitter Cutoff Current ($V_{EB} = 4 \text{ Vdc}$)	I_{EBO}		250	nA dc
DC Current Gain* ($I_C = 1 \text{ mA dc}, V_{CE} = 10 \text{ Vdc}$) ($I_C = 25 \text{ mA dc}, V_{CE} = 10 \text{ Vdc}$) ($I_C = 100 \text{ mA dc}, V_{CE} = 15 \text{ Vdc}$)	h_{FE}	20 40 20	200 250 200	
Collector - Emitter Saturation Voltage* ($I_C = 25 \text{ mA dc}, I_B = 2.5 \text{ mA dc}$)	$V_{CE (SAT)}$		3.0	Vdc
Base - Emitter Saturation Voltage* ($I_C = 25 \text{ mA dc}, I_B = 2.5 \text{ mA dc}$)	$V_{BE (SAT)}$		1.0	Vdc
Current - Gain - Bandwidth Product ($I_C = 10 \text{ mA dc}, V_{CE} = 20 \text{ Vdc}, f = 5 \text{ MHz}$)	f_T	20		MHz
Output Capacitance ($V_{CB} = 15 \text{ Vdc}, I_E = 0.1 = 2 \text{ MHz}$)	C_{ob}		20	pf

SWITCHING TIMES

Delay Time	$(V_{CC} = 150 \text{ Vdc},$ $I_C = 100 \text{ mA dc},$ $I_{B1} = I_{B2} = 10 \text{ mA dc})$	t_d		700	ns
Rise Time		t_r		1500	ns
Storage Time		t_s		3	us
Fall Time		t_f		200	ns

*Pulse Test: Pulse width = 300 us, DutyCycle = 2%

TYPICAL OPERATING CURVES



SSDII SOLID STATE DEVICES, INC.