

X00114



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2N5095 AND 2N5097

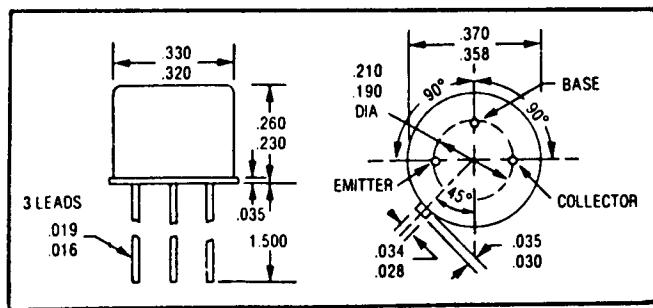
1 AMP

HIGH VOLTAGE NPN TRANSISTOR

500-600 VOLTS

CASE STYLE W
JEDEC TO-5

FEATURES



- BV_{CEO} TO 450 VOLTS
- LOW SATURATION VOLTAGE
- VERY LOW LEAKAGE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH 2N5094 AND 2N5096
- 2N5092 ALSO AVAILABLE

MAXIMUM RATINGS

Rating	Symbol	2N5095	2N5097	Unit
Collector - Emitter Voltage	V _{CEO}	400	450	Volts
R _{BE} = 1 K Ohms	V _{CER}	500	600	Volts
Collector - Base Voltage	V _{CB0}	500	600	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 @ TC = 100°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 _{θJC}	50	°C/W

ELECTRICAL CHARACTERISTICS

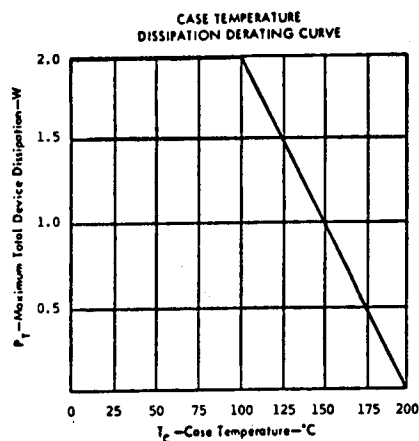
Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* (I _C = 50 mA dc)	BV _{CEO} *	400 450		V _{dc}
(I _C = 100 uA dc, R _{BE} = 1K Ohms)	BV _{CER} *	500 600		V _{dc}
Collector - Base Breakdown Voltage (I _C = 100 uA dc)	BV _{CB0}	500 600		V _{dc}
Emitter - Base Breakdown Voltage (I _E = 20 uA dc)	BV _{EBO}	6		V _{dc}

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current 2N5095 $V_{CB} = 400 \text{ Vdc}$ 2N5097 $V_{CB} = 500 \text{ Vdc}$	I_{CBO}		500	nAdc
Emitter Cutoff Current ($V_{EB} = 4 \text{ Vdc}$)	I_{EBO}		250	nAdc
DC Current Gain* ($I_C = 1 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$) ($I_C = 25 \text{ mAdc}, V_{CE} = 5 \text{ Vdc}$) ($I_C = 100 \text{ mAdc}, V_{CE} = 5 \text{ Vdc}$)	h_{FE}^*	25 50 15	250 300 250	
Collector - Emitter Saturation Voltage* ($I_C = 25 \text{ mAdc}, I_B = 2.5 \text{ mAdc}$)	$V_{CE(SAT)}^*$		0.5	Vdc
Base - Emitter Voltage* ($I_C = 25 \text{ mAdc}, V_{CE} = 5 \text{ Vdc}$)	$V_{BE(ON)}^*$		1.0	Vdc
Current - Gain - Bandwidth Product ($I_C = 50 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}, f = 20 \text{ MHz}$)	f_T	25		MHz
Output Capacitance ($V_{CB} = 15 \text{ Vdc}, I_E = 0, f = 2 \text{ MHz}$)	C_{ob}		15	pf
Delay Time ($V_{CC} = 125 \text{ Vdc}$)	t_d		200	ns
Rise Time $I_C = 100 \text{ mAdc},$	t_r		1200	ns
Storage Time $I_{B1} = I_{B2} = 10 \text{ mAdc}$	t_s		3.0	us
Fall Time	t_f		800	ns

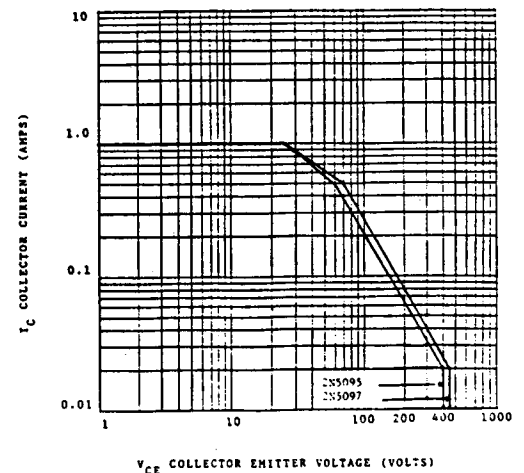
*Pulse Test: Pulse width = 300 us, DutyCycle = 2%

TYPICAL OPERATING CURVES



FORWARD BIAS DC SAFE OPERATION AREA (S.O.A. CURVE)

CURVES APPLY BELOW RATED V_{CEO} $T_c = 25^\circ\text{C}$



SSDII

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