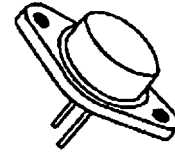


360-260

**2N3583
2N3584
2N3585**

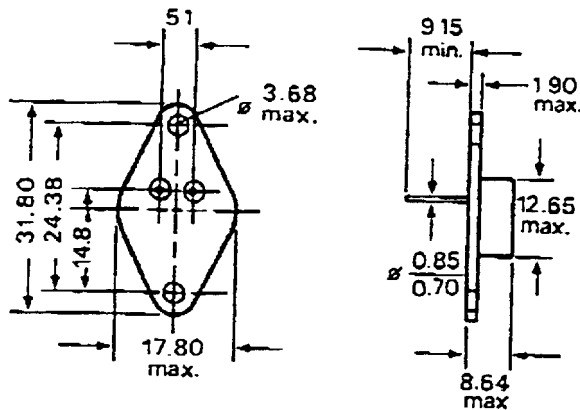
NPN SILICON HIGH VOLTAGE POWER TRANSISTORS



**35 watts at 25°C
5A peak collector current**

OUTLINE DIMENSIONS (mm)

TO-66



ABSOLUTE MAXIMUM RATINGS

V_{CB0}	Collector-base voltage ($I_E = 0$)	2N3583	250 V
		2N3584	375 V
		2N3585	600 V
$V_{CEO(sus)}$	Collector-emitter voltage ($I_B = 0$)	2N3583	175 V
		2N3584	250 V
		2N3585	300 V
V_{EBO}	Emitter-base voltage ($I_C = 0$)		6 V
I_C	Collector current	2N3583	1 A
		2N3584/5	2 A
I_{CM}	Collector peak current		5 A
I_B	Base current		1 A
P_{tot}	Total power dissipation at $T_c = 25^\circ C$		35 W
T_s	Storage temperature		-65 to 200 °C
T_j	Junction temperature		200 °C

ELECTRICAL CHARACTERISTICS

($T_c = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO} Collector cutoff current ($I_B = 0$)	$V_{CE} = 150\text{ V}$ $V_{CE} = 150\text{ V}$			10 5	mA mA
I_{CEX} Collector cutoff current ($V_{BE} = 1.5\text{ V}$)	$V_{CE} = 225\text{ V}$ $V_{CE} = 225\text{ V}$ $V_{CE} = 340\text{ V}$ $V_{CE} = 300\text{ V}$ $V_{CE} = 450\text{ V}$ $V_{CE} = 300\text{ V}$	$t_c = 150\text{ C}$ $t_c = 150\text{ C}$ $t_c = 150\text{ C}$	2N3583 2N3583 2N3584 2N3584 2N3585 2N3585	1 3 1 3 1 3	mA mA mA mA mA mA
I_{EBO} Emitter cutoff current ($I_C = 0$)	$V_{EB} = 6\text{ V}$ $V_{EB} = 6\text{ V}$		2N3583 2N3584/5	5 0.5	mA mA
$V_{CE(sat)}$ Collector-emitter saturation voltage	$I_C = 1\text{ A}$ $I_C = 1\text{ A}$	$I_B = 125\text{ mA}$ $I_B = 125\text{ mA}$	2N3583 2N3584/5	5 0.75	V V
$V_{BE(sat)}$ Base-emitter saturation voltage	$I_C = 1\text{ A}$	$I_B = 125\text{ mA}$	2N3584/5	1.4	V
h_{FE} DC current gain	$I_C = 100\text{ mA}$ $I_C = 500\text{ mA}$ $I_C = 1\text{ A}$ $I_C = 1\text{ A}$ $I_C = 1\text{ A}$	$V_{CE} = 10\text{ V}$ $V_{CE} = 10\text{ V}$ $V_{CE} = 10\text{ V}$ $V_{CE} = 2\text{ V}$ $V_{CE} = 10\text{ V}$	2N3583 2N3583 2N3584/5 2N3584/5	40 40 10 8 25	- - - - -
h_{fe} Small signal current gain	$I_C = 100\text{ mA}$ $I_C = 200\text{ mA}$ $f = 1\text{ KHz}$ $f = 5\text{ MHz}$	$V_{CE} = 30\text{ V}$ $V_{CE} = 10\text{ V}$	2N3583	25 2	- -
$I_{S/B}$ Second breakdown collector current	$V_{CE} = 100\text{ V}$			350	mA
C_{CB0} Collector-base capacitance	$I_E = 0$ $f = 1\text{ MHz}$	$V_{CB} = 10\text{ V}$		120	pF
t_r Rise time	$I_C = 1\text{ A}$	$V_{CC} = 200\text{ V}$	2N3584/5	3	μs
t_s Storage time	$I_{B1} = I_{B2} = 100\text{ mA}$ (Nominal Values)		2N3584/5	4	μs
t_f Fall time			2N3584/5	3	μs

* Pulsed: duration = 300 μs , duty cycle = 1.5%

** Pulsed: 1s non repetitive

THERMAL CHARACTERISTICS

R_{th-jc}	Thermal resistance junction-case	5 C/W max.
R_{th-ja}	Thermal resistance junction-ambient	70 C/W max.

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