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2N3644 • 2N3645 • PN3644 • PN3645

PNP SMALL SIGNAL GENERAL PURPOSE AMPLIFIERS AND SWITCHES

ABSOLUTE MAXIMUM RATINGS

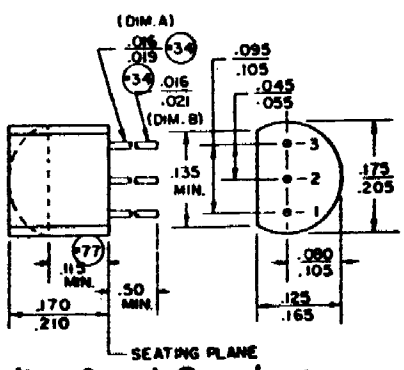
		2N3644/45	PN3644/45
Maximum Temperatures			
Storage Temperature		−55°C to +125°C	−55°C to +150°C
Operating Junction Temperature		125°C	150°C
Lead Temperature (10 seconds)		260°C	260°C
Maximum Power Dissipation (Notes 2 & 3)			
Total Dissipation at 25°C Case Temperature		0.07 W	1.0 W
at 25°C Ambient Temperature		0.3 W	0.625 W
Maximum Voltages and Current		2N/PN3645	2N/PN3644
V_{CBO}	Collector to Base Voltage	−60 V	−45 V
V_{CEO}	Collector to Emitter Voltage (Note 4)	−60 V	−45 V
V_{EBO}	Emitter to Base Voltage	−5.0 V	−5.0 V
I_C	Collector Current	500 mA	500 mA

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

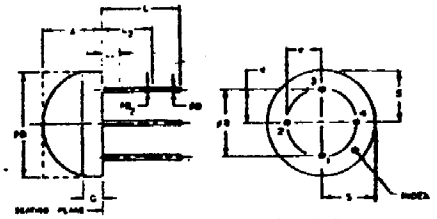
SYMBOL	CHARACTERISTIC	2N3644 PN3644 MIN.	2N3644 PN3644 MAX.	2N3645 PN3645 MIN.	2N3645 PN3645 MAX.	UNITS	TEST CONDITIONS
h_{FE}	DC Current Gain	40		40			I_C = 100 μA, V_{CE} = −10 V
		80		80			I_C = 1.0 mA, V_{CE} = −10 V
h_{FE}	DC Pulse Current Gain	100		100			I_C = 10 mA, V_{CE} = −10 V
		80	240	80	240		I_C = 50 mA, V_{CE} = 1.0 V
		100	300	100	300		I_C = 150 mA, V_{CE} = −10 V
		20		20			I_C = 300 mA, V_{CE} = −2.0 V
h_{fe}	High Frequency Current Gain	2.0		2.0			I_C = 20 mA, V_{CE} = −20 V, f = 100 MHz
C_{ob}	Output Capacitance		8.0		8.0	pF	I_E = 0, V_{CB} = −10 V, f = 140 kHz
C_{ib}	Input Capacitance		35		35	pF	I_C = 0, V_{EB} = −0.5 V, f = 140 kHz
$V_{CE(sat)}$	Pulsed Collector Saturation Voltage		−0.25		−0.25	V	I_C = 50 mA, I_B = 2.5 mA
			−0.4		−0.4	V	I_C = 150 mA, I_B = 15 mA
			−1.0		−1.0	V	I_C = 300 mA, I_B = 30 mA
$V_{CEO(sus)}$	Collector to Emitter Sustaining Voltage	−45		−60		V	I_C = 10 mA (pulsed), I_B = 0
$V_{BE(sat)}$	Pulsed Base		−1.0		−1.0	V	I_C = 50 mA, I_B = 2.5 mA
			−1.3		−1.3	V	I_C = 150 mA, I_B = 15 mA
		−0.8	−2.0	−0.8	−2.0	V	I_C = 300 mA, I_B = 30 mA
BV_{EBO}	Emitter to Base Breakdown Voltage	−5.0			−5.0	V	I_C = 0, I_E = 10 μA
BV_{CBO}	Collector to Base Breakdown Voltage	−45		−60		V	I_C = 100 μA, I_E = 0
t_{on}	Turn On Time		40		40	ns	I_C ≈ 300 mA, I_{B1} ≈ 30 mA, V_{CC} = −30 V
t_{off}	Turn Off Time		100		100	ns	I_C ≈ 300 mA, I_{B1} ≈ I_{B2} ≈ 30 mA, V_{CE} = −30 V
I_{CES}	Collector Reverse Current		35			nA	V_{CE} = −30 V, V_{BE} = 0
					35	nA	V_{CE} = −50 V, V_{BE} = 0
			2.0			μA	V_{CE} = −30 V, V_{BE} = 0, T_A = 65°C
					2.0	μA	V_{CE} = −50 V, V_{BE} = 0, T_A = 65°C

TO-92

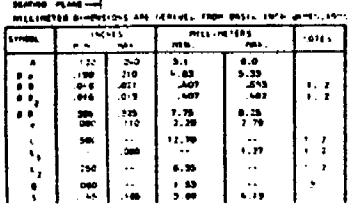
PN3644
PN3645



TO-105



2N3644
2N3645



Quality Semi-Conductors