

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

NPN
2N3583 thru 2N3585
2N4240
PNP
2N6420 thru 2N6422



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*MAXIMUM RATINGS

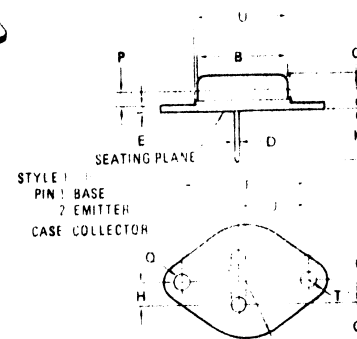
Rating	Symbol	2N3583 2N6420	2N3584 2N6421	2N3585 2N6422	2N4240	Unit
Collector-Emitter Voltage	V _{CE}	175	250	300	300	V _{dc}
Collector-Base Voltage	V _{CB}	250	375	500	500	V _{dc}
Emitter-Base Voltage	V _{EB}	6.0				V _{dc}
Collector Current—Continuous —Peak (1)	I _C	1.0 5.0	2.0 5.0			A _{dc}
Base Current	I _B	1.0				A _{dc}
Total Power Dissipation ● T _C = 25°C, Derate above 25°C	P _D	35 0.2				Watts W/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +200				°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	5.0	°C/W

*Indicates JEDEC Registered Data

(1) Pulse Test: Pulse Width = 5.0 ms, Duty Cycle ≤ 10%.



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
B	11.94	12.70	0.470	0.500
C	6.35	8.64	0.250	0.340
D	0.71	0.86	0.028	0.034
E	1.27	1.91	0.050	0.075
F	24.33	24.43	0.958	0.962
G	4.83	5.33	0.190	0.210
H	2.41	2.67	0.095	0.105
J	14.48	14.99	0.570	0.590
K	9.14	-	0.360	-
P	-	1.27	-	0.050
Q	3.81	3.88	0.142	0.152
R	-	8.89	-	0.350
T	-	3.68	-	0.145
U	-	15.75	-	0.620

All JEDEC Dimensions and Notes Apply.

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

Characteristic	NPN	PNP	Symbol	NPN		PNP		Unit
				Min	Max	Min	Max	

*OFF CHARACTERISTICS (1)

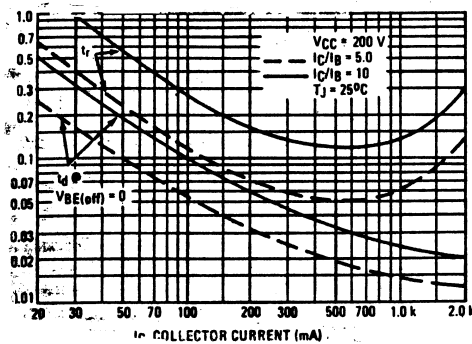
Collector-Emitter Sustaining Voltage (I _C = 200 mA _{dc} , I _B = 0) NPN (I _C = 50 mA _{dc} , I _B = 0) PNP	2N3583 2N3584 2N3585 2N4240	2N6420 2N6421 2N6422	V _{CE(sat)}	175 250 300 300	-	175 250 300 300	-	V _{dc}
Collector Cutoff Current (V _{CE} = 150 V _{dc} , I _B = 0)	2N3583 2N3584 2N3585 2N4240	2N6420 2N6421 2N6422	I _{CEO}	-	10 5.0 5.0 5.0	-	10 5.0 5.0 5.0	mA _{dc}
Collector Cutoff Current (V _{CE} = 225 V _{dc} , V _{BE(off)} = 1.5 V _{dc}) (V _{CE} = 340 V _{dc} , V _{BE(off)} = 1.5 V _{dc}) (V _{CE} = 450 V _{dc} , V _{BE(off)} = 1.5 V _{dc}) (V _{CE} = 225 V _{dc} , V _{BE(off)} = 1.5 V _{dc} , T _C = 150°C) (V _{CE} = 300 V _{dc} , V _{BE(off)} = 1.5 V _{dc} , T _C = 150°C)	2N3583 2N3584 2N3585 2N4240 2N3583 2N3584 2N3585 2N4240	2N6420 2N6421 2N6422 2N6420 2N6421 2N6422	I _{CEX}	- - - - - - - -	1.0 1.0 1.0 2.0 3.0 3.0 3.0 5.0	- - - - - - - -	1.0 1.0 1.0 2.0 3.0 3.0 3.0 5.0	mA _{dc}
Emitter Cutoff Current (V _{BE} = 6.0 V _{dc} , I _C = 0)	2N3583 2N3584 2N3585 2N4240	2N6420 2N6421 2N6422	I _{EBO}	-	5.0 0.5 0.5 0.5	-	5.0 0.5 0.5 0.5	mA _{dc}

ON CHARACTERISTICS (1)

DC Current Gain (I _C = 0.1 A _{dc} , V _{CE} = 10 V _{dc}) (I _C = 0.5 A _{dc} , V _{CE} = 10 V _{dc}) (I _C = 0.75 A _{dc} , V _{CE} = 2.0 V _{dc}) (I _C = 0.75 A _{dc} , V _{CE} = 10 V _{dc}) (I _C = 1.0 A _{dc} , V _{CE} = 2.0 V _{dc}) (I _C = 1.0 A _{dc} , V _{CE} = 10 V _{dc})	All 2N3583 2N4240 2N4240 2N3584 2N3585 2N3583 2N3584 2N3585	All 2N6420 2N6421 2N6422 2N6421 2N6422 2N6420 2N6421 2N6422	h _{FE}	40 40 10 30 8.0 8.0 10 25 25	- 200 100 150 80 80 - 100 100	40 40 10 30 8.0 8.0 10 25 25	- 200 100 150 80 80 - 100 100	
*Collector-Emitter Saturation Voltage (I _C = 0.75 A _{dc} , I _B = 75 mA _{dc}) (I _C = 1.0 A _{dc} , I _B = 125 mA _{dc})	2N4240 2N3583 2N3584 2N3585	2N6420 2N6421 2N6422	V _{CE(sat)}	- 1.0 5.0 0.75 0.75	- - - - -	- 1.0 5.0 0.75 0.75	- - - - -	V _{dc}
*Base-Emitter Saturation Voltage (I _C = 0.75 A _{dc} , I _B = 75 mA _{dc}) (I _C = 1.0 A _{dc} , I _B = 100 mA _{dc})	2N4240 2N3584 2N3585	2N6421 2N6422	V _{BE(sat)}	- 1.8 1.4 1.4	- - - -	- 1.8 1.4 1.4	- - - -	V _{dc}
Base-Emitter On Voltage	All	All	V _{BE(on)}	-	1.4	-	1.4	V _{dc}

2N3583 thru 2N3585 • 2N4240 – NPN
2N6420 thru 2N6423 – PNP

NPN
2N3583 thru 2N3585, 2N4240



PNP
2N6420 thru 2N6423

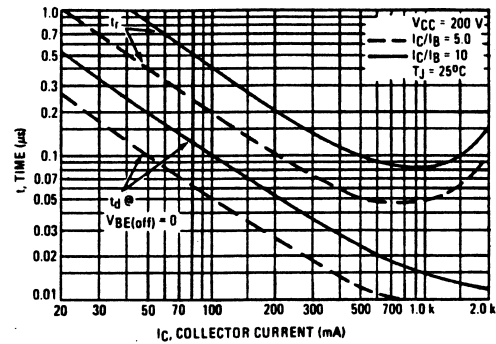


FIGURE 3 – TURN-OFF TIME

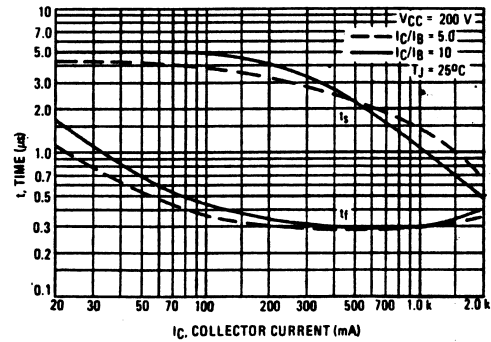
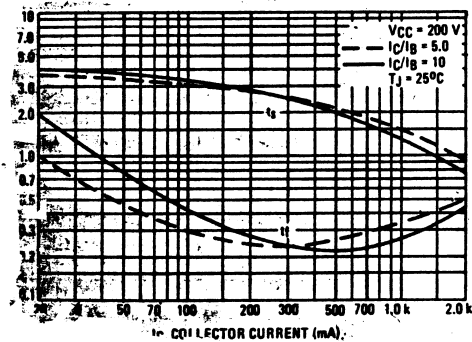


FIGURE 4 – CURRENT-GAIN – BANDWIDTH PRODUCT

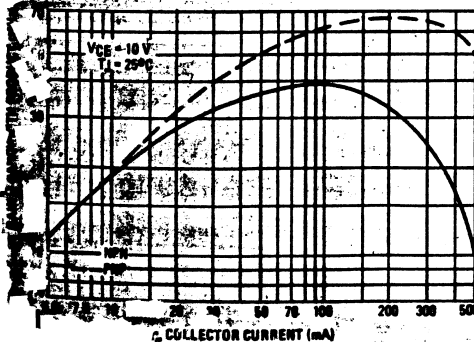


FIGURE 5 – CAPACITANCE

