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Manufacturers of World Class Discrete Semiconductors

2N3583

2N3584

2N3585

NPN SILICON TRANSISTOR

JEDEC TO-66 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3583 series types are Silicon NPN Transistors designed for high speed switching and high voltage amplifier applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

	SYMBOL	2N3583	2N3584	2N3585	UNITS
Collector-Base Voltage	V_{CBO}	250	375	500	V
Collector-Emitter Voltage	V_{CEO}	175	250	300	V
Emitter-Base Voltage	V_{EBO}	6.0	6.0	6.0	V
Collector Current	I_C	1.0	2.0	2.0	A
Peak Collector Current	I_{CM}	5.0	5.0	5.0	A
Base Current	I_B	1.0	1.0	1.0	A
Power Dissipation	P_D	35	35	35	W
Operating and Storage					
Junction Temperature	T_J, T_{stg}	-65 to +200			$^\circ\text{C}$
Thermal Resistance	θ_{JC}	5.0	5.0	5.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3583		2N3584		2N3585		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=225\text{V}, V_{EB}=1.5\text{V}$		1.0		-		-	mA
I_{CEV}	$V_{CE}=340\text{V}, V_{EB}=1.5\text{V}$		-		1.0		-	mA
I_{CEV}	$V_{CE}=450\text{V}, V_{EB}=1.5\text{V}$		-		-		1.0	mA
I_{CEV}	$V_{CE}=225\text{V}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$		3.0		-		-	mA
I_{CEV}	$V_{CE}=300\text{V}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$		-		3.0		3.0	mA
I_{CEO}	$V_{CE}=150\text{V}$		10		5.0		5.0	mA
I_{EBO}	$V_{BE}=6.0\text{V}$		5.0		0.5		0.5	mA
BV_{CEO}	$I_C=10\text{mA}$	175		250		300		V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=125\text{mA}$		5.0		0.75		0.75	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		-		1.40		1.40	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=1.0\text{A}$		1.40		1.40		1.40	V
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	40		40		40		
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	40	200	-	-	-	-	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	-	-	8.0	80	8.0	80	
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	10	-	25	100	25	100	
f_T	$V_{CE}=10\text{V}, I_C=200\text{mA}, f=5.0\text{MHz}$	10		10		10		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		120		120		120	pF
h_{fe}	$V_{CE}=30\text{V}, I_C=100\text{mA}, f=1.0\text{kHz}$	25	350	-	-	-	-	MHz
t_r	$V_{CC}=200\text{V}, I_C=1.0\text{A}, I_{B1}=100\text{mA}$		-		3.0		3.0	μs
t_s	$V_{CC}=200\text{V}, I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$		-		4.0		4.0	μs
t_f	$V_{CC}=200\text{V}, I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$		-		3.0		3.0	μs
$I_{s/b}$	$V_{CE}=100\text{V}$	350		350		350		mA