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Manufacturers of World Class Discrete Semiconductors

2N4400
2N4401

NPN SILICON TRANSISTOR

JEDEC TO-92 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N4400, 2N4401 types are molded epoxy Silicon NPN Transistors designed for general purpose amplifier and switching applications. The PNP complementary types are 2N4402, 2N4403.

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNIT
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EB0}	6.0	V
Collector Current	I _C	600	mA
Power Dissipation	P _D	625	mW
Operating and Storage Junction Temperature	T _J , T _{stg}	-55 TO +150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

SYMBOL	TEST CONDITIONS	2N4400		2N4401		UNIT
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =35V, V _{EB} (OFF)=0.4V		0.1		0.1	μA
BV _{CB0}	I _C =0.1mA	60		60		V
BV _{CEO}	I _C =1.0mA	40		40		V
BV _{EB0}	I _E =0.1mA	6.0		6.0		V
V _{CE} (SAT)	I _C =150mA, I _B =15mA		0.4		0.4	V
V _{CE} (SAT)	I _C =500mA, I _B =50mA		0.75		0.75	V
V _{CE} (SAT)	I _C =150mA, I _B =15mA	0.75	0.95	0.75	0.95	V
V _{CE} (SAT)	I _C =500mA, I _B =50mA	-	1.2	-	1.2	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	-		20		
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	20		40		
h _{FE}	V _{CE} =1.0V, I _C =10mA	40		80		
h _{FE}	V _{CE} =1.0V, I _C =150mA	50	150	100	300	
h _{FE}	V _{CE} =2.0V, I _C =500mA	20		40		
h _{fe}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	20	250	40	500	
f _T	V _{CE} =10V, I _C =20mA, f=100MHz	200		250		MHz
C _{ob}	V _{CB} =5.0V, f=100kHz		6.5		6.5	pF
C _{ib}	V _{BE} =0.5V, f=100kHz		30		30	pF
t _{on}	V _{CC} =30V, V _{EB} (OFF)=2.0V, I _C =150mA, I _{B1} =15mA		35		35	ns
t _{off}	V _{CC} =30V, I _C =150mA, I _{B1} = I _{B2} =15mA		255		255	ns