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Manufacturers of World Class Discrete Semiconductors

PN3639
PN3640

PNP SILICON TRANSISTOR

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR PN3639, PN3640 types are silicon NPN transistors designed for ultra high speed switching applications.

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

	SYMBOL	PN3639	PN3640	UNIT
Collector-Base Voltage	V _{CB0}	6.0	12	V
Collector-Emitter Voltage	V _{CEO}	6.0	12	V
Emitter-Base Voltage	V _{EBO}	4.0	4.0	V
Collector Current	I _C	80	80	mA
Power Dissipation	P _D	625	625	mW
Power Dissipation (T _C =25°C)	P _D	1.0	1.0	W
Operating and Storage Junction Temperature	T _J , T _{STG}	-65 TO +150		°C

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	PN3639		PN3640		UNIT
		MIN	MAX	MIN	MAX	
I _{CES}	V _{CE} =3.0V		50	-		nA
I _{CES}	V _{CE} =6.0V		-	50		nA
I _{CES}	V _{CE} =3.0V, T _A =65°C		1.0	-		µA
I _{CES}	V _{CE} =6.0V, T _A =65°C		-	1.0		µA
B _V C _{B0}	I _C =100µA	6.0		12		V
B _V C _{ES}	I _C =100µA	6.0		12		V
B _V C _{EO}	I _C =10mA	6.0		12		V
B _V E _{B0}	I _E =100µA	4.0		4.0		V
V _{CE} (SAT)	I _C =10mA, I _B =0.5mA		0.25		0.30	V
V _{CE} (SAT)	I _C =10mA, I _B =1.0mA		0.16		0.20	V
V _{CE} (SAT)	I _C =10mA, I _B =1.0mA, T _A =65°C		0.23		0.25	V
V _{CE} (SAT)	I _C =50mA, I _B =5.0mA		0.50		0.60	V
V _{BE} (SAT)	I _C =10mA, I _B =0.5mA	0.75	0.95	0.75	0.95	V
V _{BE} (SAT)	I _C =10mA, I _B =1.0mA	0.80	1.00	0.80	1.00	V
V _{BE} (SAT)	I _C =50mA, I _B =5.0mA	-	1.50	-	1.50	V
h _{FE}	V _{CE} =0.3V, I _C =10mA	30	120	30	120	
h _{FE}	V _{CE} =1.0V, I _C =50mA	20	-	20	-	
f _T	V _{CB} =0V, I _C =10mA, f=100MHz	300		300		MHz
f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz	500		500		MHz
C _{ib}	V _{EB} =0.5V, I _C =0, f=140kHz		3.5		3.5	pF
C _{ob}	V _{CB} =0V, I _E =0, f=140kHz		5.5		5.5	pF
C _{ob}	V _{CB} =5.0V, I _E =0, f=140kHz		3.5		3.5	pF
t _{ON}	V _{CC} =1.5V, I _C =10mA, I _{B1} =0.5mA		60		60	ns
t _{ON}	V _{CC} =6.0V, I _C =50mA, I _{B1} =5.0mA		25		25	ns
t _{OFF}	V _{CC} =1.5V, I _C =10mA, I _{B1} =I _{B2} =0.5mA		60		75	ns
t _{OFF}	V _{CC} =6.0V, I _C =50mA, I _{B1} =I _{B2} =5.0mA		25		35	ns
τ _s	V _{CC} =3.0V, I _C =10mA, I _{B1} =I _{B2} =10mA		30		50	ns

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