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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	VCBO	6.0	12	V
Collector-Emitter Voltage	VCEO	6.0	12	V
Emitter-Base Voltage	VEBO	4.0	4.0	V
Collector Current	IC	80	80	mA
Power Dissipation	PD	625	625	mW
Power Dissipation (TC=25°C)	PD	1.0	1.0	W
Operating and Storage Junction Temperature	TJ, TSTG	-65 TO +150		°C

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

SYMBOL	TEST CONDITIONS	PN3639		PN3640		UNIT
		MIN	MAX	MIN	MAX	
ICES	VCE=3.0V		50	-	-	nA
ICES	VCE=6.0V		-	50	-	nA
ICES	VCE=3.0V, TA=65°C		1.0	-	-	μA
ICES	VCE=6.0V, TA=65°C		-	1.0	-	μA
BVCBO	IC=100μA	6.0		12		V
BVCEs	IC=100μA	6.0		12		V
BVCEO	IC=10mA	6.0		12		V
BVEBO	IE=100μA	4.0		4.0		V
VCE(SAT)	IC=10mA, IB=0.5mA		0.25		0.30	V
VCE(SAT)	IC=10mA, IB=1.0mA		0.16		0.20	V
VCE(SAT)	IC=10mA, IB=1.0mA, TA=65°C		0.23		0.25	V
VCE(SAT)	IC=50mA, IB=5.0mA		0.50		0.60	V
VBE(SAT)	IC=10mA, IB=0.5mA	0.75	0.95	0.75	0.95	V
VBE(SAT)	IC=10mA, IB=1.0mA	0.80	1.00	0.80	1.00	V
VBE(SAT)	IC=50mA, IB=5.0mA	-	1.50	-	1.50	V
hFE	VCE=0.3V, IC=10mA	30	120	30	120	
hFE	VCE=1.0V, IC=50mA	20	-	20	-	
fT	VCE=0V, IC=10mA, f=100MHz	300		300		MHz
fT	VCE=5.0V, IC=10mA, f=100MHz	500		500		MHz
Cib	VEB=0.5V, IC=0, f=140kHz		3.5		3.5	pF
Cob	VCE=0V, IE=0, f=140kHz		5.5		5.5	pF
Cob	VCE=5.0V, IE=0, f=140kHz		3.5		3.5	pF
tON	VCC=1.5V, IC=10mA, IB1=0.5mA		60		60	ns
tON	VCC=6.0V, IC=50mA, IB1=5.0mA		25		25	ns
tOFF	VCC=1.5V, IC=10mA, IB1=IB2=0.5mA		60		75	ns
tOFF	VCC=6.0V, IC=50mA, IB1=IB2=5.0mA		25		35	ns
τs	VCC=3.0V, IC=10mA, IB1=IB2=10mA		30		50	ns