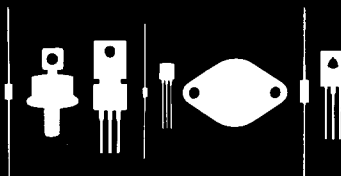


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145 Adams Avenue  
Hauppauge, New York 11788



2N3646

2N5772  
PN3646

JEDEC T0-106

JEDEC T0-92

NPN SILICON SWITCHING TRANSISTORS

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N/PN3646, 2N5772 Series types are Silicon PNP Transistors designed for ultra high speed switching applications.

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

	SYMBOL	2N3646	2N5772 PN3646	UNIT
Collector-Base Voltage	$V_{CB0}$	40	40	V
Collector-Emitter Voltage	$V_{CES}$	40	40	V
Collector-Emitter Voltage	$V_{CEO}$	15	15	V
Emitter-Base Voltage	$V_{EBO}$	5.0	5.0	V
Collector Current	$I_C$	200	200	mA
Power Dissipation	$P_D$	200	625	mW
Operating Dissipation				
Junction Temperature	$T_J, T_{stg}$	-65 TO +150		$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
$I_{CES}$	$V_{CE}=20\text{V}$		0.5	$\mu\text{A}$
$I_{CES}$	$V_{CE}=20\text{V}, T_A=65^\circ\text{C}$		3.0	$\mu\text{A}$
$BV_{CB0}$	$I_C=100\mu\text{A}$	40		V
$BV_{CES}$	$I_C=10\mu\text{A}$	40		V
$BV_{CEO}$	$I_C=10\text{mA}$	15		V
$BV_{EBO}$	$I_E=100\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.28	V
$V_{CE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		0.5	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}, T_A=65^\circ\text{C}$		0.3	V
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$	0.75	0.95	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.2	V
$V_{BE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		1.7	V
$h_{FE}$	$V_{CE}=0.4\text{V}, I_C=30\text{mA}$	30	120	
$h_{FE}$	$V_{CE}=0.5\text{V}, I_C=100\text{mA}$	25		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=300\text{mA}$	15		
$f_T$	$V_{CE}=10\text{V}, I_C=30\text{mA}, f=100\text{MHz}$	350		MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		5.0	pF
$C_{ib}$	$V_{BE}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		8.0	pF
$t_{on}$	$V_{CC}=10\text{V}, I_C=300\text{mA}, I_{B1}=30\text{mA}$		18	ns
$t_{off}$	$V_{CC}=10\text{V}, I_C=300\text{mA}, I_{B1}=I_{B2}=30\text{mA}$		28	ns
$\tau_S$	$V_{CC}=10\text{V}, I_C=I_{B1}=I_{B2}=10\text{mA}$		18	ns