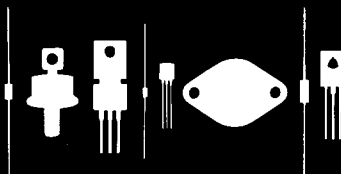


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145 Adams Avenue
Hauppauge, New York 11788



2N3646

2N5772
PN3646

JEDEC TO-106

JEDEC TO-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	μA
I_{CES}	$V_{CE}=20\text{V}, T_A=65^{\circ}\text{C}$		3.0	μA
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
$V_{CE}(\text{SAT})$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.2	V
$V_{CE}(\text{SAT})$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.28	V
$V_{CE}(\text{SAT})$	$I_C=300\text{mA}, I_B=30\text{mA}$		0.5	V
$V_{CE}(\text{SAT})$	$I_C=30\text{mA}, I_B=3.0\text{mA}, T_A=65^{\circ}\text{C}$		0.3	V
$V_{BE}(\text{SAT})$	$I_C=30\text{mA}, I_B=3.0\text{mA}$	0.75	0.95	V
$V_{BE}(\text{SAT})$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.2	V
$V_{BE}(\text{SAT})$	$I_C=300\text{mA}, I_B=30\text{mA}$		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
τ_s	$V_{CC}=10\text{V}, I_C=I_{B1}=I_{B2}=10\text{mA}$		18	ns

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