

New Jersey Semi-Conductor Products, Inc.

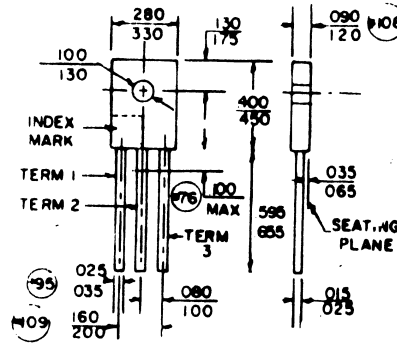
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2N6034 2N6035 2N6036 PNP
 2N6037 2N6038 2N6039 NPN

COMPLEMENTARY SILICON DARLINGTON
 TRANSISTORS

JEDEC TO-126 CASE



DESCRIPTION

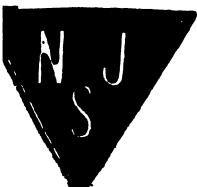
2N6034, 2N6037 series types are complementary silicon darlington power transistors manufactured by the epitaxial base process and designed for general purpose amplifier and switching applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	2N6034 2N6037	2N6035 2N6038	2N6036 2N6039	UNIT
Collector-Base Voltage	V_{CB0}	40	60	80	V
Collector-Emitter Voltage	V_{CE0}	40	60	80	V
Emitter-Base Voltage	V_{EB0}		5.0		V
Collector Current	I_C		4.0		A
Collector Current-PEAK	I_{CM}		8.0		A
Base Current	I_B		100		mA
Power Dissipation	P_D		40		W
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D		1.5		W
Operating and Storage					
Junction Temperature	T_J, T_{STG}		-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JC}		3.12		$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}		83.3		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N6034		2N6035		2N6036		UNIT
		2N6037	2N6038	2N6038	2N6039	2N6039		
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$		0.5	0.5	0.5	0.5	0.5	mA
I_{CEV}	$V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V}$		100	100	100	100	100	μA
I_{CEV}	$V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=125^\circ\text{C}$		500	500	500	500	500	μA
I_{CE0}	$V_{CE}=\text{Rated } V_{CE0}$		100	100	100	100	100	μA
I_{EBO}	$V_{BE}=5.0\text{V}$		2.0	2.0	2.0	2.0	2.0	mA
BV_{CE0}	$I_C=100\text{mA}$	40		60		80		V
$V_{CE}(\text{SAT})$	$I_C=2.0\text{A}, I_B=8.0\text{mA}$		2.0	2.0	2.0	2.0	2.0	V
$V_{CE}(\text{SAT})$	$I_C=4.0\text{A}, I_B=40\text{mA}$		3.0	3.0	3.0	3.0	3.0	V
$V_{BE}(\text{SAT})$	$I_C=4.0\text{A}, I_B=40\text{mA}$		4.0	4.0	4.0	4.0	4.0	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$		2.8	2.8	2.8	2.8	2.8	V
h_{FE}	$V_{CE}=3.0\text{V}, I_C=0.5\text{A}$	500	-	500	-	500	-	
h_{FE}	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$	750	15K	750	15K	750	15K	
h_{FE}	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$	100	-	100	-	100	-	
f_T	$V_{CE}=10\text{V}, I_C=0.75\text{A}, f=1.0\text{MHz}$	25		25		25		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$ (PNP Types)		200	200	200	200	200	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$ (NPN Types)		100	100	100	100	100	pF



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