

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N6034 2N6035 2N6036 PNP

2N6037 2N6038 2N6039 NPN

COMPLEMENTARY SILICON DARLINGTON
TRANSISTORS

JEDEC TO-126 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 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		$^\circ\text{C/W}$

<u>ELECTRICAL CHARACTERISTICS</u> ($T_C=25^\circ\text{C}$ unless otherwise noted)		2N6034 2N6037	2N6035 2N6038	2N6036 2N6039	UNIT
		MIN	MAX	MIN	MAX
I_{CB0}	$V_{CB}=\text{Rated } V_{CB0}$	0.5		0.5	0.5
I_{CEV}	$V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V}$	100		100	100
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
I_{CE0}	$V_{CE}=\text{Rated } V_{CE0}$	100		100	100
I_{EB0}	$V_{BE}=5.0\text{V}$	2.0		2.0	2.0
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
$V_{CE}(\text{SAT})$	$I_C=4.0\text{A}, I_B=40\text{mA}$	3.0		3.0	3.0
$V_{BE}(\text{SAT})$	$I_C=4.0\text{A}, I_B=40\text{mA}$	4.0		4.0	4.0
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$	2.8		2.8	2.8
h_{FE}	$V_{CE}=3.0\text{V}, I_C=0.5\text{A}$	500	-	500	-
h_{FE}	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$	750	15K	750	15K
h_{FE}	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$	100	-	100	-
f_T	$V_{CE}=10\text{V}, I_C=0.75\text{A}, f=1.0\text{MHz}$	25		25	25
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$ (PNP Types)	200		200	200
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$ (NPN Types)	100		100	100