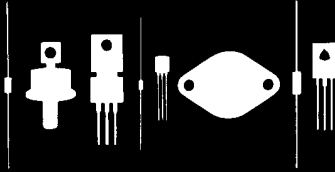


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145 Adams Avenue
Hauppauge, New York 11788



2N5336
2N5337
2N5338
2N5339

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5336 series types are silicon NPN epitaxial planar transistors in a hermetically sealed metal package designed for power amplifier and switching power supplies where very low saturation voltage and high speed switching at high current levels are needed.

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

	SYMBOL	2N5336 2N5337	2N5338 2N5339	UNIT
Collector-Base Voltage	V_{CB0}	80	100	V
Collector-Emitter Voltage	V_{CE0}	80	100	V
Emitter-Base Voltage	V_{EB0}	6.0	6.0	V
Collector Current (Continuous)	I_C	5.0	5.0	A
Base Current	I_B	1.0	1.0	A
Power Dissipation	P_D	6.0	6.0	W
Operating and Storage Junction Temperature	T_J, T_{STG}	-65 TO +200		$^\circ\text{C}$
Thermal Resistance	θ_{JC}	29		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N5336 2N5337		2N5338 2N5339		UNIT
		MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=\text{Rated } V_{CB0}$		10		10	μA
I_{CEV}	$V_{CE}=75\text{V}, V_{EB}(\text{OFF})=1.5\text{V}$		10		-	μA
I_{CEV}	$V_{CE}=90\text{V}, V_{EB}(\text{OFF})=1.5\text{V}$		-		10	μA
I_{CEV}	$V_{CE}=75\text{V}, V_{EB}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C}$		1.0		-	mA
I_{CEV}	$V_{CE}=90\text{V}, V_{EB}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C}$		-		1.0	mA
I_{CE0}	$V_{CE}=75\text{V}$		100		-	μA
I_{CE0}	$V_{CE}=90\text{V}$		-		100	μA
I_{EB0}	$V_{BE}=6.0\text{V}$		100		100	μA
BV_{CE0}	$I_C=50\text{mA}$	80		100		V
$V_{CE}(\text{SAT})$	$I_C=2.0\text{A}, I_B=0.2\text{A}$		0.7		0.7	V
$V_{CE}(\text{SAT})$	$I_C=5.0\text{A}, I_B=0.5\text{A}$		1.2		1.2	V
$V_{BE}(\text{SAT})$	$I_C=2.0\text{A}, I_B=0.2\text{A}$		1.2		1.2	V
$V_{BE}(\text{SAT})$	$I_C=5.0\text{A}, I_B=0.5\text{A}$		1.8		1.8	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5336, 2N5338)	30		30		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5337, 2N5339)	60		60		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$ (2N5336, 2N5338)	30	120	30	120	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$ (2N5337, 2N5339)	60	240	60	240	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{A}$ (2N5336, 2N5338)	20		20		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{A}$ (2N5337, 2N5339)	40		40		
f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=10\text{MHz}$	30		30		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$		250		250	pF
C_{ib}	$V_{BE}=2.0\text{V}, I_C=0, f=0.1\text{MHz}$		1000		1000	pF
t_{on}	$V_{CC}=40\text{V}, I_C=2.0\text{A}, I_{B1}=0.2\text{A}$		200		200	ns
t_s	$V_{CC}=40\text{V}, I_C=2.0\text{A}, I_{B1}=I_{B2}=0.2\text{A}$		2.0		2.0	μs
t_f	$V_{CC}=40\text{V}, I_C=2.0\text{A}, I_{B1}=I_{B2}=0.2\text{A}$		200		200	ns