

CentralTM Semiconductor Corp.

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

Manufacturers of World Class Discrete Semiconductors

2N3738
2N3739

NPN SILICON
POWER TRANSISTOR

JEDEC TO-66 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3738, 2N3739 types are NPN Silicon Epitaxial Power Transistors designed for high voltage amplifier applications.

MAXIMUM RATINGS (T_C = 25°C)

	SYMBOL	2N3738	2N3739	UNITS
Collector-Base Voltage	V _{CB0}	250	325	V
Collector-Emitter Voltage	V _{CEO}	225	300	V
Emitter-Base Voltage	V _{EBO}	6.0		V
Continuous Collector Current	I _C	1.0		A
Peak Collector Current	I _{CM}	2.0		A
Continuous Base Current	I _B	0.5		A
Peak Base Current	I _{BM}	1.0		A
Power Dissipation	P _D	20		W
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +200		°C
Thermal Resistance	Θ _{JC}	7.5		°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3738		2N3739		UNITS
		MIN	MAX	MIN	MAX	
I _{CBO}	V _{CB} = 250V		0.1	-		mA
I _{CBO}	V _{CB} = 325V		-	0.1		mA
I _{CEV}	V _{CE} = 250V, V _{EB(off)} = 1.5V		0.5	-		mA
I _{CEV}	V _{CE} = 300V, V _{EB(off)} = 1.5V		-	0.5		mA
I _{CEV}	V _{CB} = 125V, V _{EB(off)} = 1.5V, T _C = 100°C		1.0	-		mA
I _{CEV}	V _{CB} = 200V, V _{EB(off)} = 1.5V, T _C = 100°C		-	1.0		mA
I _{CEO}	V _{CB} = 125V		0.25	-		mA
I _{CEO}	V _{CB} = 200V		-	0.25		mA
I _{EBO}	V _{EB} = 6.0V		0.1	0.1		mA
BV _{CEO}	I _C = 5.0mA	225		300		V
V _{CE(SAT)}	I _C = 250mA, I _B = 25mA		2.5		2.5	V
V _{BE(ON)}	V _{CE} = 10V, I _C = 100mA		1.0		1.0	V

(Continued on Reverse Side)

ELECTRICAL CHARACTERISTICS (Continued)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>
h_{FE}	$V_{CE} = 10V, I_C = 50mA$	30	
h_{FE}	$V_{CE} = 10V, I_C = 100mA$	40	200
h_{FE}	$V_{CE} = 10V, I_C = 250mA$	25	
f_T	$V_{CE} = 10V, I_C = 100mA, f = 10MHz$	10	
C_{ob}	$V_{CB} = 100V, I_E = 0, f = 100kHz$		20
h_{fe}	$V_{CE} = 20V, I_C = 100mA, f = 1.0kHz$	35	

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www.centralsemi.com