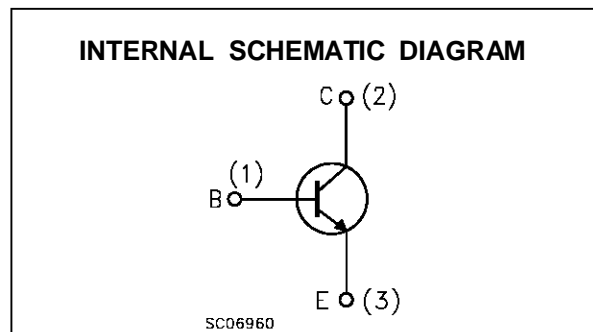
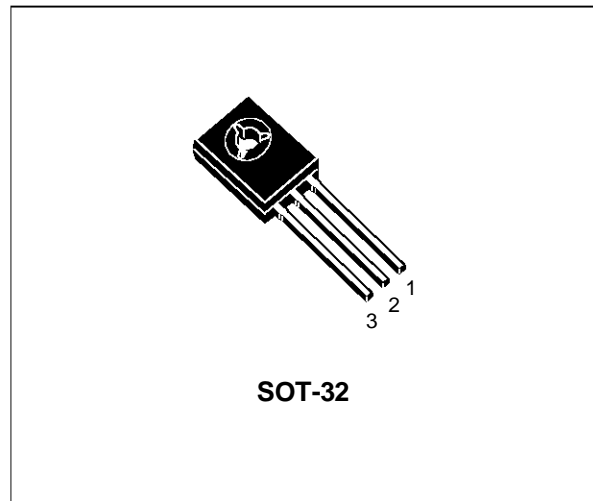


SILICON NPN TRANSISTOR

■ SGS-THOMSON PREFERRED SALESTYPE

DESCRIPTION

The 2N5657 is a silicon epitaxial-base NPN transistor in Jedec SOT-32 plastic package. It is intended for use output amplifiers, low current, high voltage converters and AC line relays.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	375	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	350	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	0.5	A
I_{CM}	Collector Peak Current	1	A
I_B	Base Current	0.25	A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ C$	20	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ C$
T_j	Max. Operating Junction Temperature	150	$^\circ C$

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	6.25	$^{\circ}\text{C}/\text{W}$
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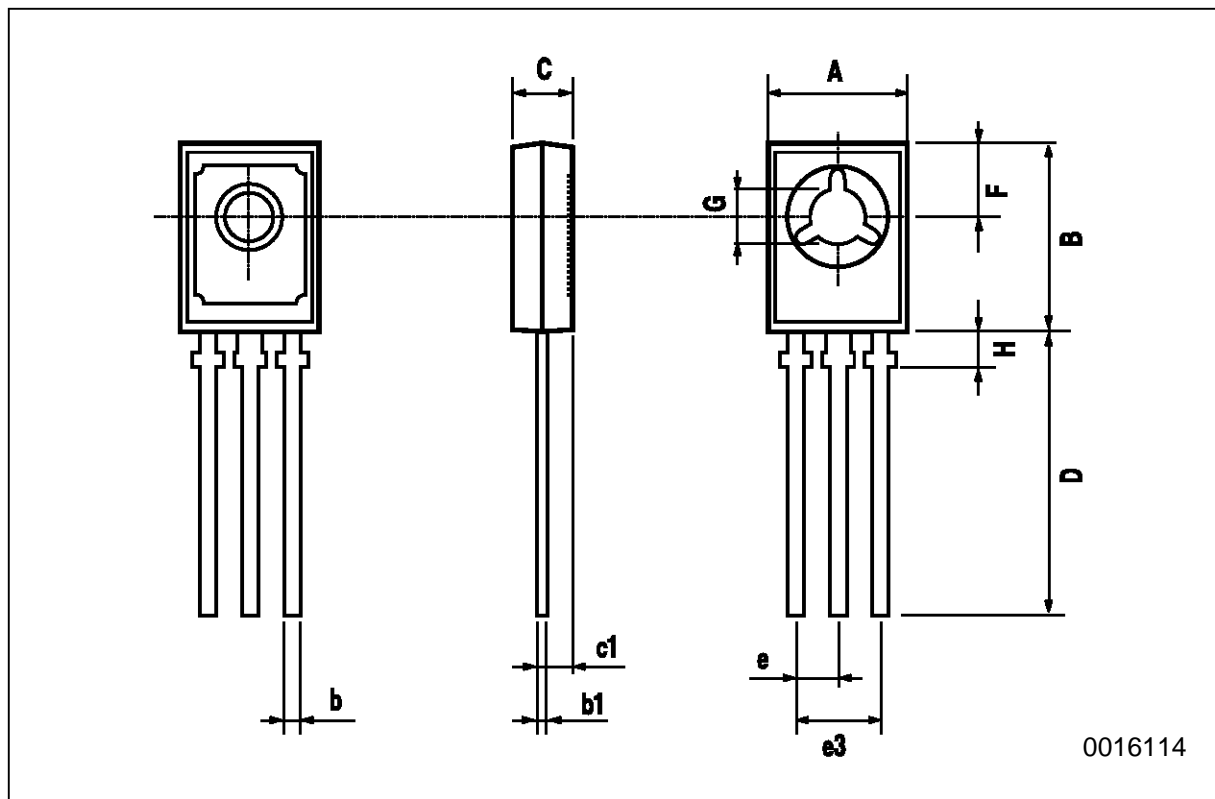
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CE} = 375\text{ V}$			0.01	mA
I_{CEV}	Collector Cut-off Current ($V_{BE} = -1.5\text{V}$)	$V_{CE} = 375\text{ V}$ $V_{CE} = 250\text{ V}$ $T_C = 100^{\circ}\text{C}$			0.1 1	mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 250\text{ V}$			0.1	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 6\text{ V}$			0.01	mA
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage	$I_C = 1\text{ mA}$	350			V
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage	$I_C = 100\text{ mA}$ $L = 50\text{ mH}$	350			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 0.1\text{ A}$ $I_B = 10\text{ mA}$ $I_C = 0.25\text{ A}$ $I_B = 25\text{ mA}$ $I_C = 0.5\text{ A}$ $I_B = 0.1\text{ A}$			1 2.5 10	V V V
V_{BE}^*	Base-Emitter Voltage	$I_C = 0.1\text{ A}$ $V_{CE} = 10\text{ V}$			1	V
h_{FE}^*	DC Current Gain	$I_C = 50\text{ mA}$ $V_{CE} = 10\text{ V}$ $I_C = 0.1\text{ A}$ $V_{CE} = 10\text{ V}$ $I_C = 0.25\text{ A}$ $V_{CE} = 10\text{ V}$ $I_C = 0.5\text{ A}$ $V_{CE} = 10\text{ V}$	25 30 15 5		250	
h_{fe}	Small Signal Current Gain	$I_C = 0.1\text{ A}$ $V_{CE} = 10\text{ V}$ $f = 1\text{KHz}$	20			
f_T	Transition frequency	$I_C = 50\text{ mA}$ $V_{CE} = 10\text{ V}$ $f = 10\text{MHz}$	10			MHz
C_{CBO}	Collector Base Capacitance	$V_{CB} = 10\text{ V}$ $f = 100\text{KHz}$			25	pF

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5%

SOT-32 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	7.4		7.8	0.291		0.307
B	10.5		10.8	0.413		0.445
b	0.7		0.9	0.028		0.035
b1	0.49		0.75	0.019		0.030
C	2.4		2.7	0.04		0.106
c1		1.2			0.047	
D		15.7			0.618	
e		2.2			0.087	
e3		4.4			0.173	
F		3.8			0.150	
G	3		3.2	0.118		0.126
H			2.54			0.100



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