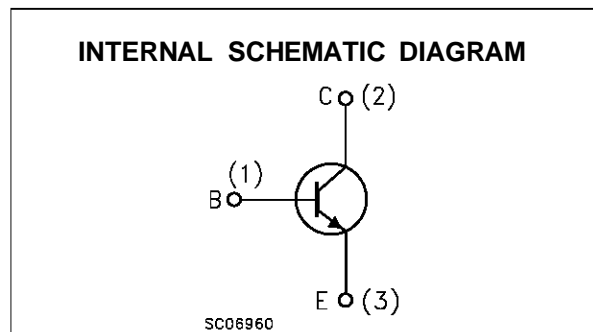
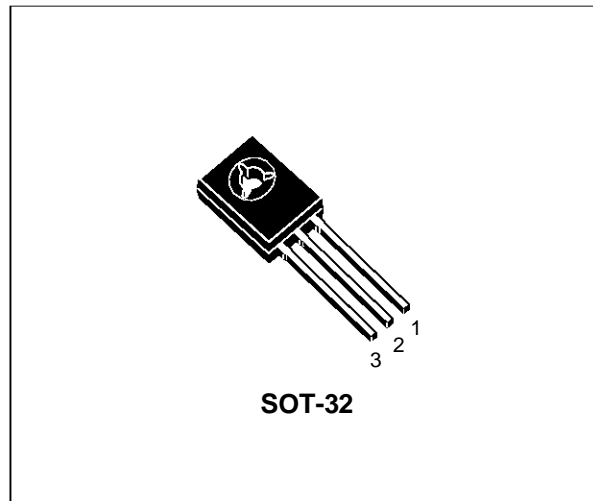


**SILICON NPN TRANSISTOR**

- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR

**DESCRIPTION**

The MJE3440 is a NPN silicon epitaxial planar transistors in SOT-32 plastic package. It is designed for use in consumer and industrial line-operated applications.



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	350	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	250	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	5	V
$I_C$	Collector Current	0.3	A
$I_B$	Base Current	0.15	A
$P_{tot}$	Total Power Dissipation at $T_{case} \leq 25^\circ C$	15	W
$T_{stg}$	Storage Temperature	-65 to +150	$^\circ C$
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$

# MJE3440

## THERMAL DATA

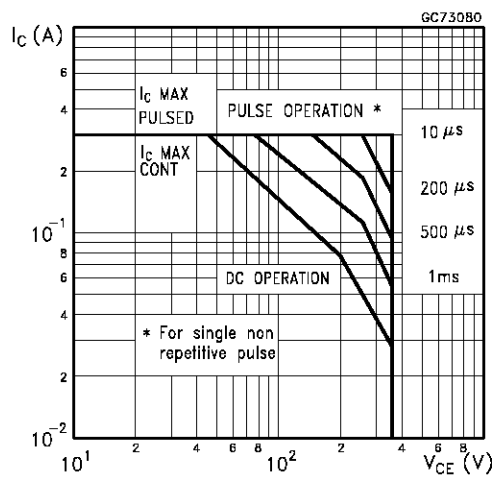
R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	8.33	°C/W
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## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

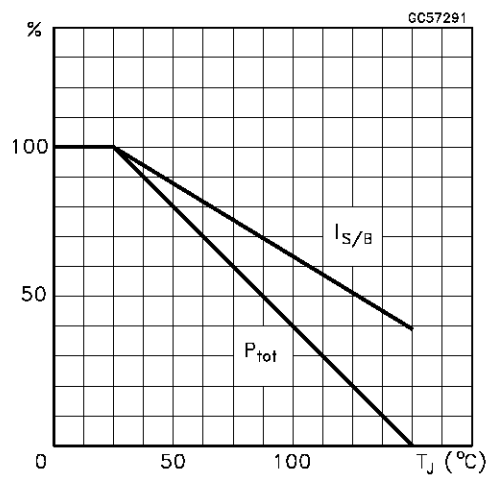
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CB</sub> = 250 V			20	μA
I <sub>CEV</sub>	Collector Cut-off Current (V <sub>BE</sub> = -1.5V)	V <sub>CE</sub> = 300 V			500	μA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 200 V			50	μA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			20	μA
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 50 mA      I <sub>B</sub> = 4 mA			0.5	V
V <sub>BE(sat)*</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 50 mA      I <sub>B</sub> = 4 mA			0.3	V
V <sub>BE*</sub>	Base-Emitter Voltage	I <sub>C</sub> = 50 mA      V <sub>CE</sub> = 10 V			0.8	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = 2 mA      V <sub>CE</sub> = 10 V I <sub>C</sub> = 20 mA      V <sub>CE</sub> = 10 V	30 50		200	
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = 5 mA      V <sub>CE</sub> = 10 V f = 1 KHz	25			
f <sub>T</sub>	Transistor Frequency	I <sub>C</sub> = 10 mA      V <sub>CE</sub> = 10 V f = 5 MHz	15			MHz
C <sub>CBO*</sub>	Collector-Base Capacitance	V <sub>CB</sub> = 10 V      I <sub>E</sub> = 0 f = 1 MHz			10	pF

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

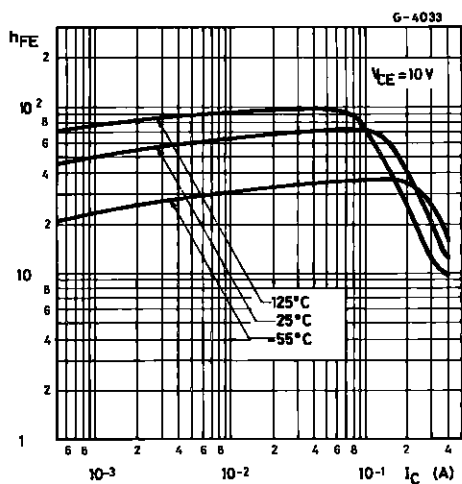
## Safe Operating Area



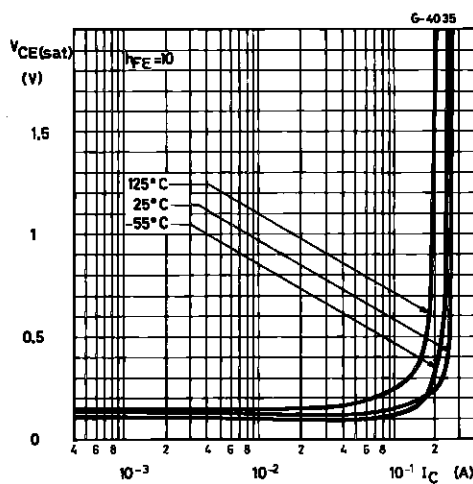
## Derating Curve



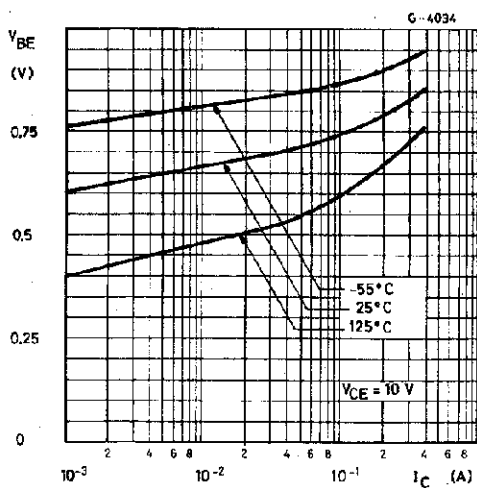
DC Current Gain



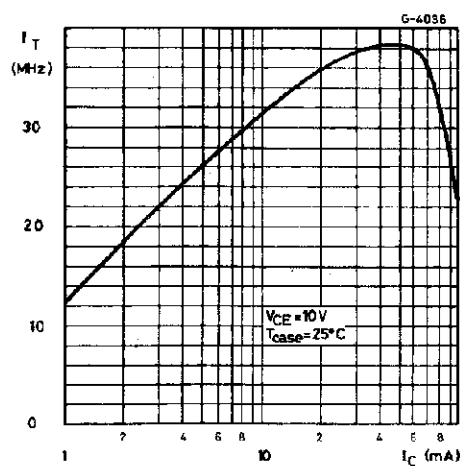
Collector-emitter Saturation Voltage



Base-emitter Voltage

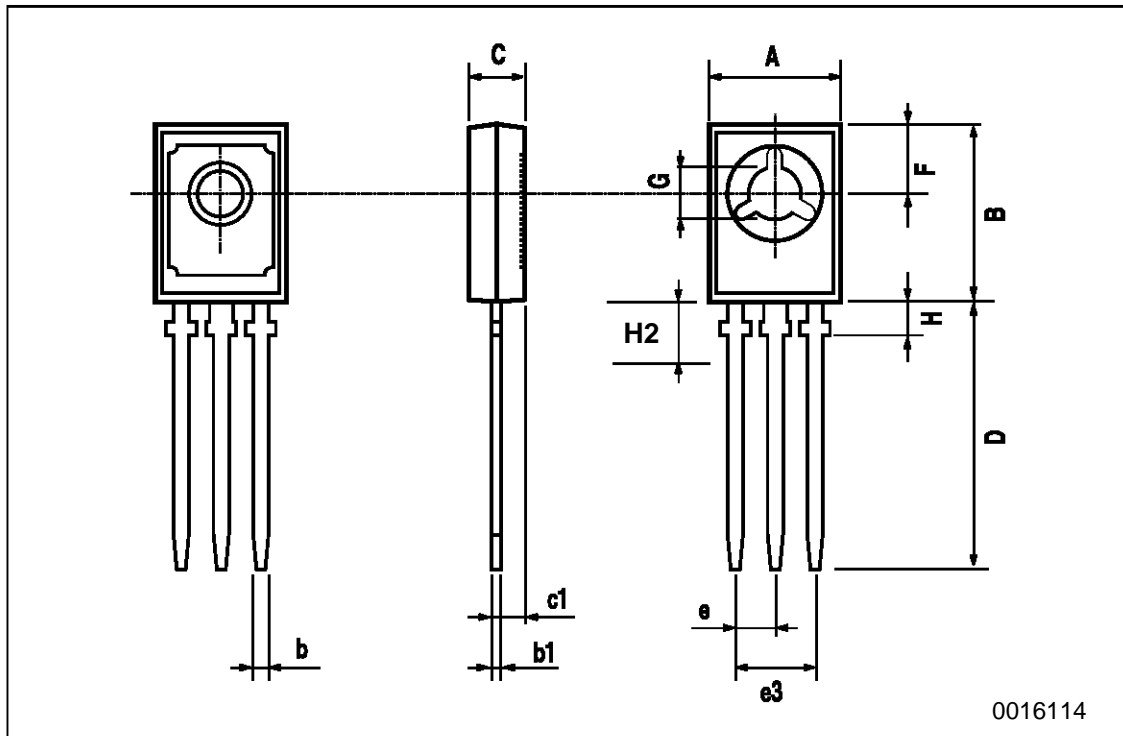


Transition Frequency



**SOT-32 (TO-126) 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	0.040		0.106
c1	1.0		1.3	0.039		0.050
D	15.4		16.0	0.606		0.629
e		2.2			0.087	
e3	4.15		4.65	0.163		0.183
F		3.8			0.150	
G	3		3.2	0.118		0.126
H			2.54			0.100
H2		2.15			0.084	



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