

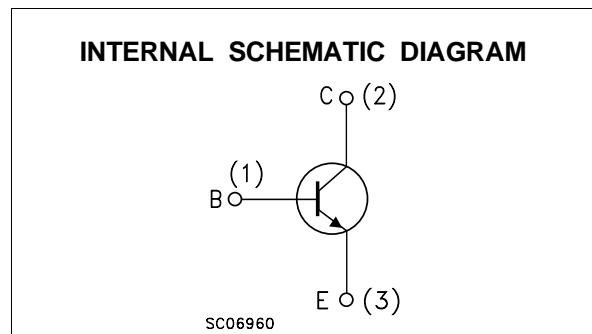
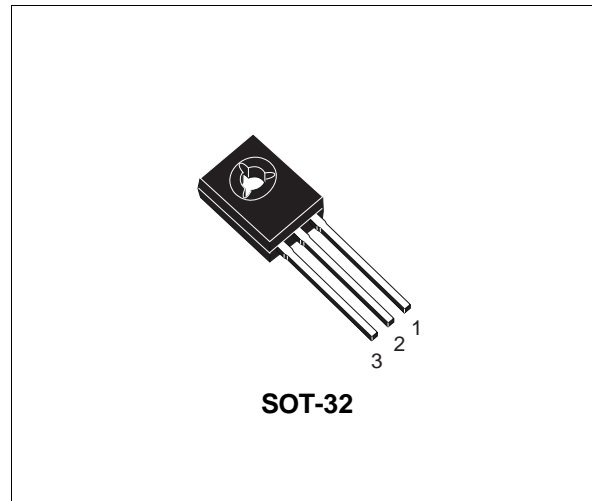


SILICON NPN TRANSISTOR

- STMicroelectronics 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

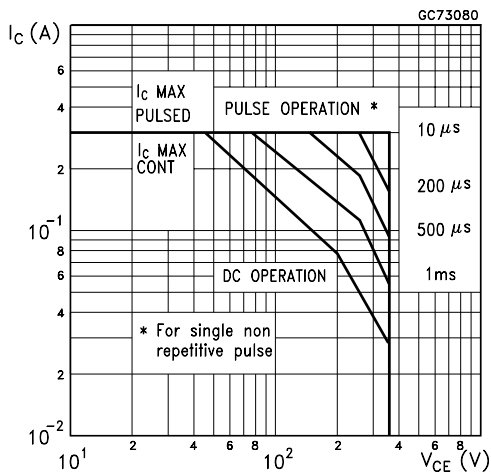
R _{thj-case}	Thermal Resistance Junction-case	Max	8.33	°C/W
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ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

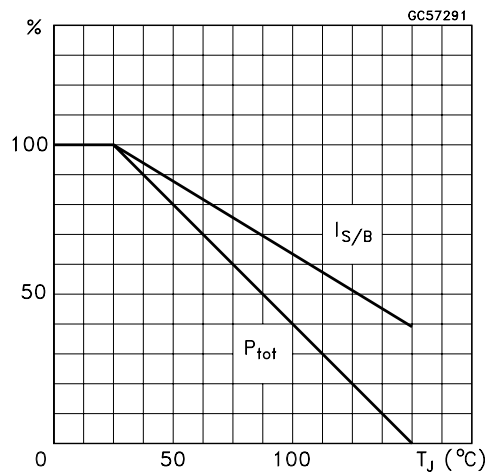
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 250				20	μA
I _{CEV}	Collector Cut-off Current (V _{BE} = -1.5V)	V _{CE} = 300				500	μA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 200 V				50	μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V				20	μA
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 50 mA	I _B = 4 mA			0.5	V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 50 mA	I _B = 4 mA			0.3	V
V _{BE*}	Base-Emitter Voltage	I _C = 50 mA	V _{CE} = 10 V			0.8	V
h _{FE*}	DC Current Gain	I _C = 2 mA I _C = 20 mA	V _{CE} = 10 V V _{CE} = 10 V	30 50		200	
h _{fe}	Small Signal Current Gain	I _C = 5 mA f = 1 KHz	V _{CE} = 10 V	25			
f _T	Transistor Frequency	I _C = 10 mA f = 5 MHz	V _{CE} = 10 V	15			MHz
C _{CB0*}	Collector-Base Capacitance	V _{CB} = 10 V f = 1 MHz	I _E = 0			10	pF

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

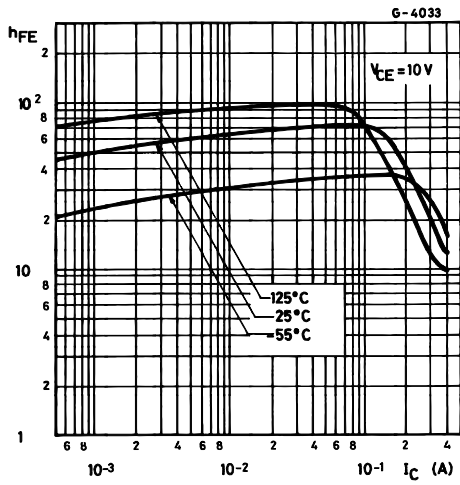
Safe Operating Area



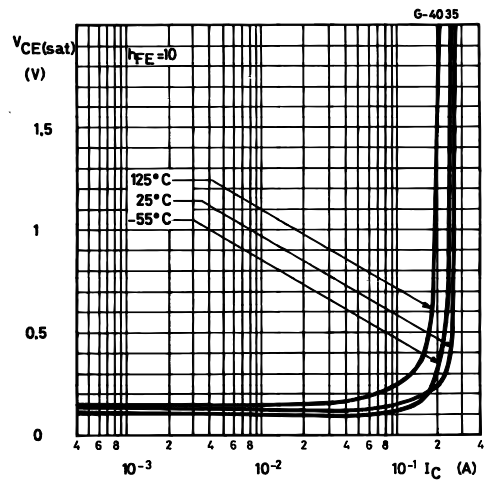
Derating Curve



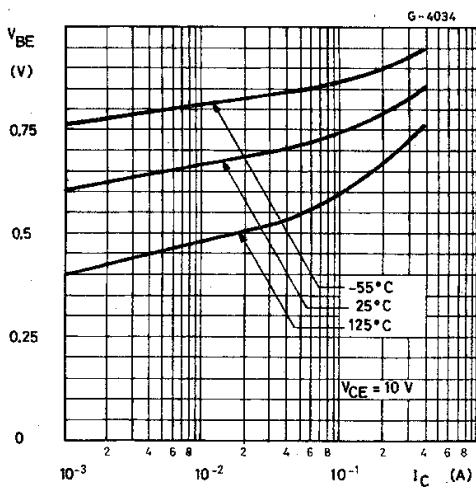
DC Current Gain



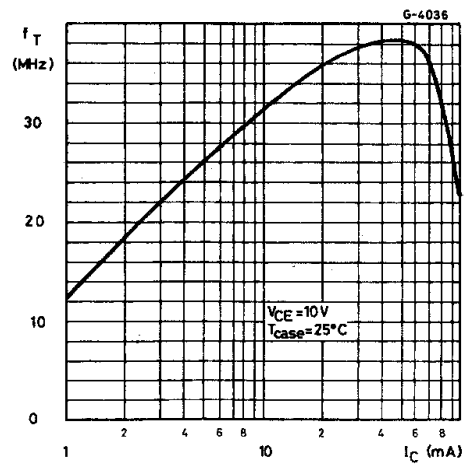
Collector-emitter Saturation Voltage



Base-emitter Voltage

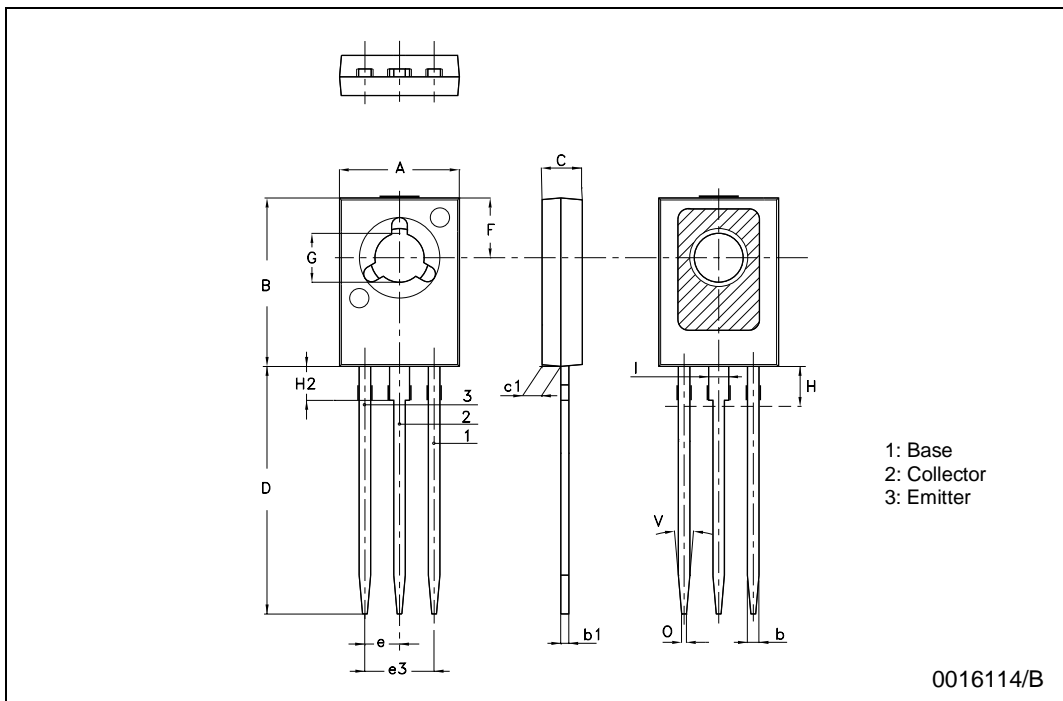


Transition Frequency



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		0.425
b	0.7		0.9	0.028		0.035
b1	0.40		0.65	0.015		0.025
C	2.4		2.7	0.094		0.106
c1	1.0		1.3	0.039		0.051
D	15.4		16.0	0.606		0.630
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
H2		2.15			0.084	
I		1.27			0.05	
O		0.3			0.011	
V		10°			10°	



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