

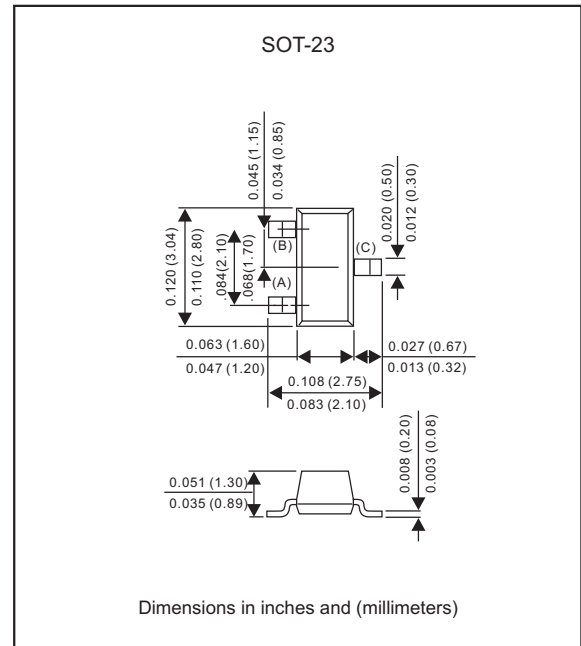
Features

- High collector-emitter breakdown voltage.
- PNP silicon epitaxial planar transistor, is designed for general purpose and amplifier applications.
- Capable of 300mW power dissipation.
- Lead-free parts meet RoHS requirements.
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MMBTA92-Q1	UNIT
Collector-emitter voltage		V_{CE0}	-300	V
Collector-base voltage		V_{CBO}	-300	V
Emitter-base voltage		V_{EBO}	-5.0	V
Collector current - continuous		I_C	-200	mA
Total device dissipation FR-5 board		P_C	300	mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction temperature		T_J	150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^\circ\text{C}$

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

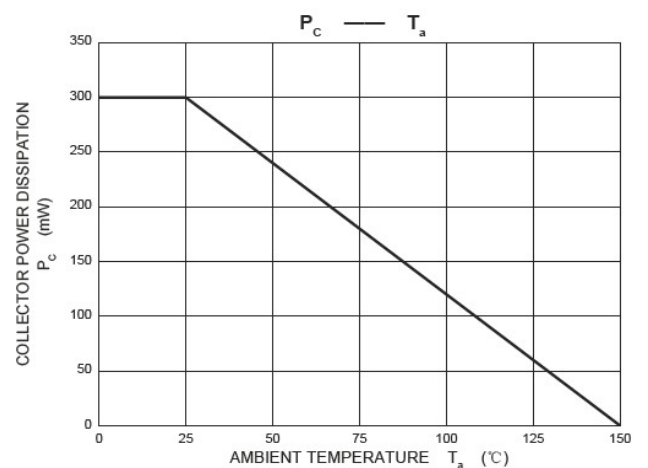
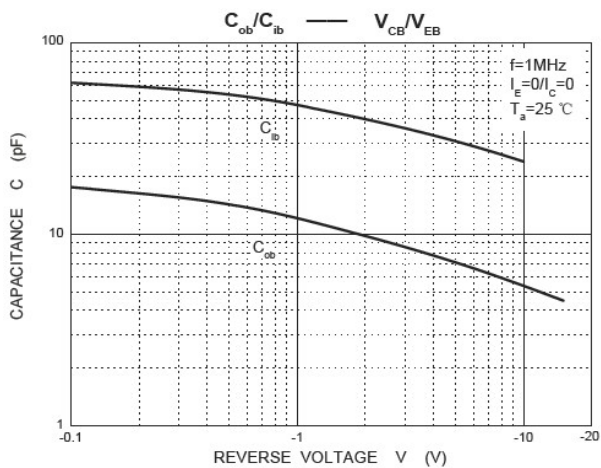
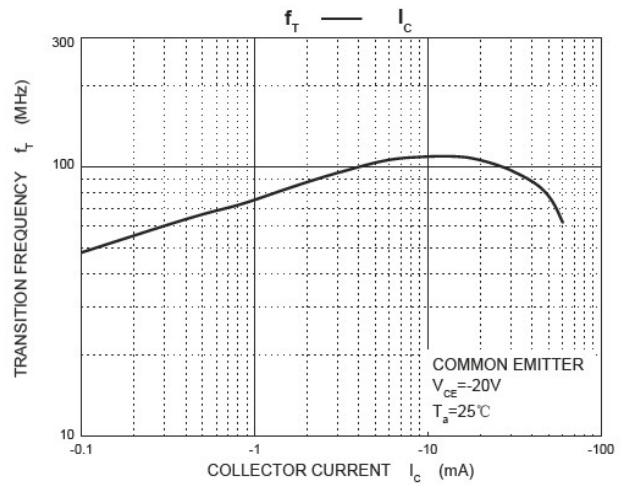
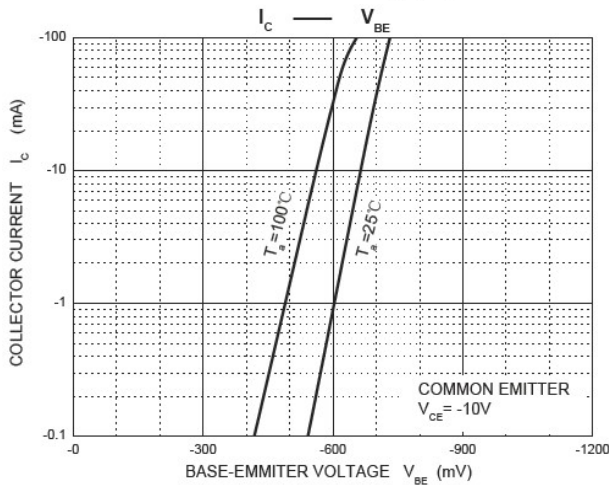
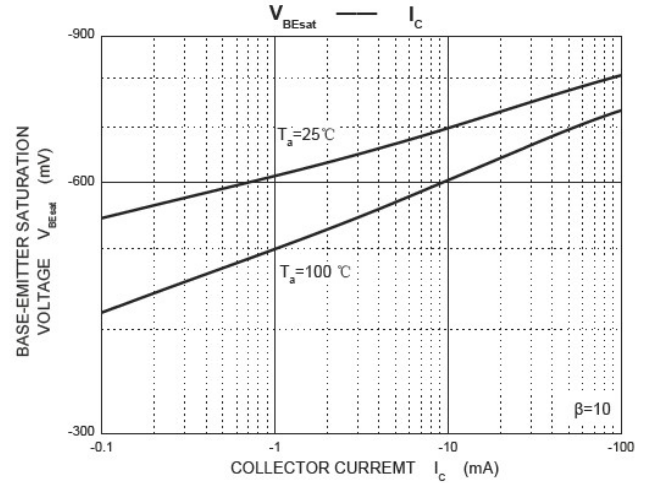
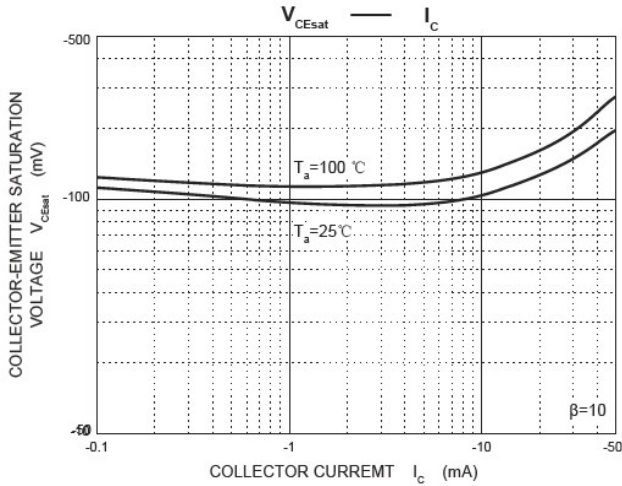
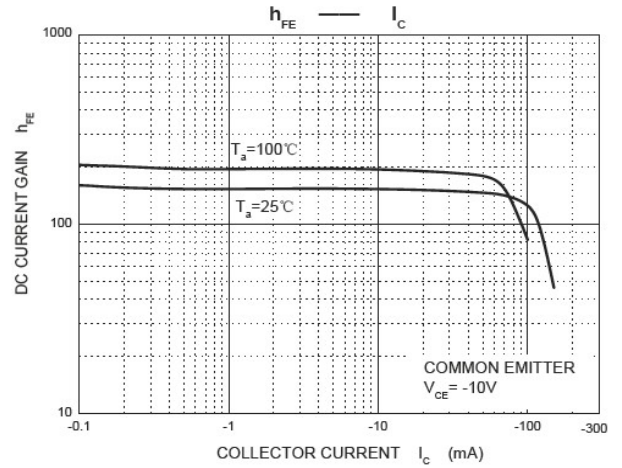
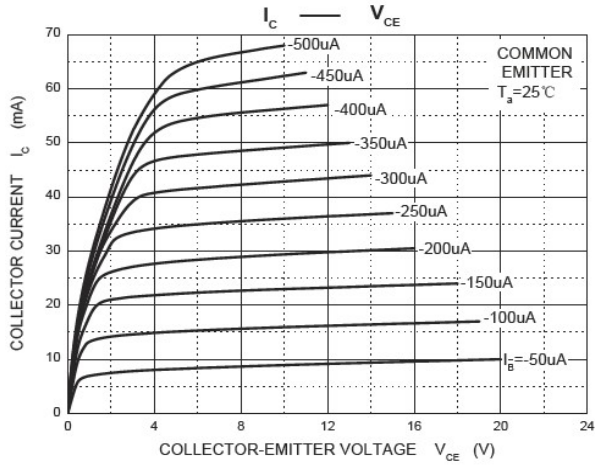
Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	$I_C = -100\mu A, I_E = 0$	-300	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	$I_C = -1mA, I_B = 0$	-300	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E = -100\mu A, I_C = 0$	-5	
Collector cut-off current	I_{CBO}	nA	$V_{CB} = -200V, I_E = 0$		-250
Collector cut-off current	I_{EBO}	nA	$V_{EB} = -5V, I_C = 0$		-100
DC current gain	h_{FE}		$V_{CE} = -10V, I_C = -1mA$	60	
	h_{FE}		$V_{CE} = -10V, I_C = -10mA$	100	200
	h_{FE}		$V_{CE} = -10V, I_C = -30mA$	60	
Collector-emitter saturation voltage	$V_{CE(sat)*}$	V	$I_C = -20mA, I_B = -2mA$		-0.2
Base-emitter saturation voltage	$V_{BE(sat)*}$	V	$I_C = -20mA, I_B = -2mA$		-0.9

OTHER ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

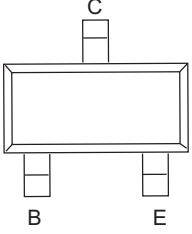
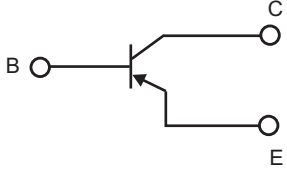
Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	f_t	MHz	$V_{CE} = -20V, I_C = -10mA, f = 30MHz$	50	

* Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$

Rating and characteristic curves



Pinning information

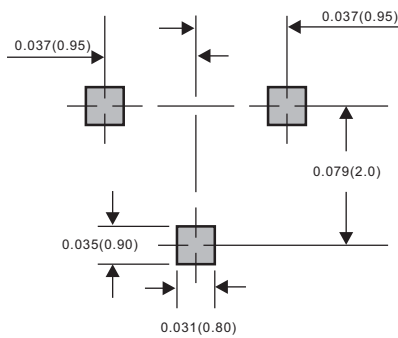
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
MMBTA92-Q1	2D

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)