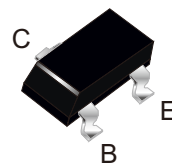


FEATURES

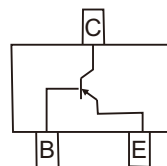
- Epoxy meets UL-94 V-0 flammability rating
- High current surface mount PNP silicon switching transistor for Load management in portable applications

SOT-23



MECHANICAL DATA

- Case: SOT-23(TO-236)
- Terminals: Plated solderable per MIL-STD-750, method 2026
- Mounting Position: Any
- Marking: 589



MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CE0}	V	-30
Collector-Base Voltage	V_{CBO}	V	-50
Emitter-Base Voltage	V_{EBO}	V	-5.0
Collector Current, Continuous	I_C	A	-1.0
Power Dissipation	P_D	mW	310
Operation Junction Temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage Temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150
Thermal resistance From junction to ambient	$R_{\theta JA}$	$^{\circ}\text{C}/\text{W}$	403

MMBT589

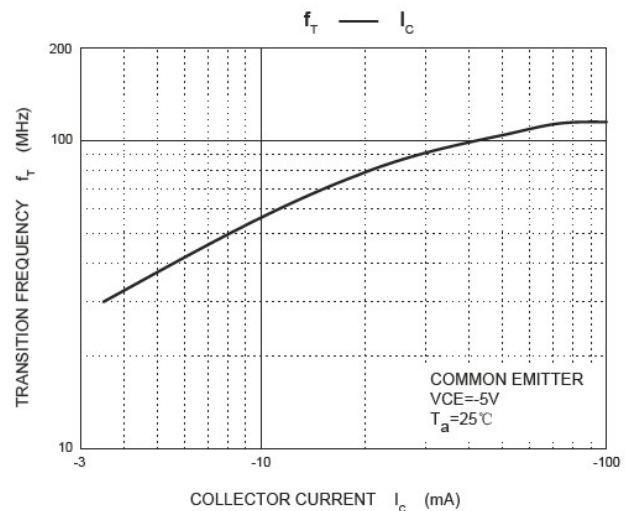
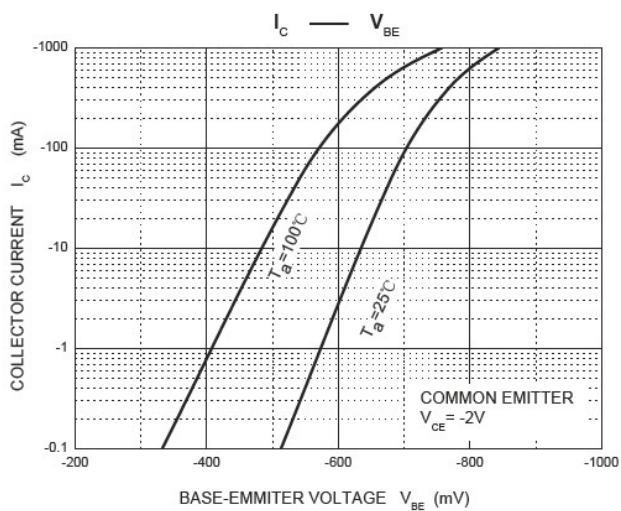
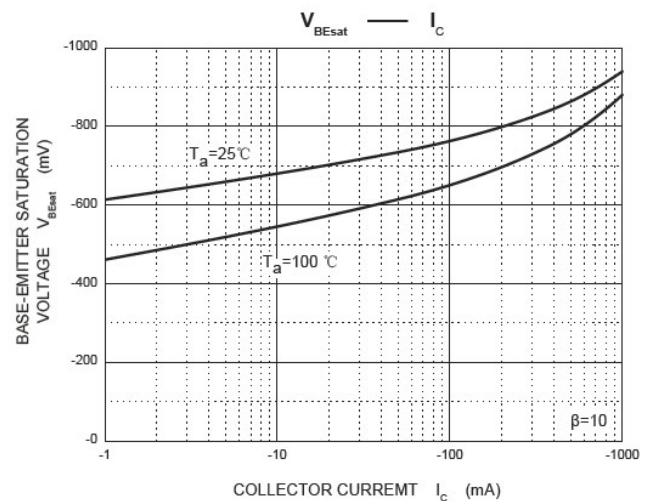
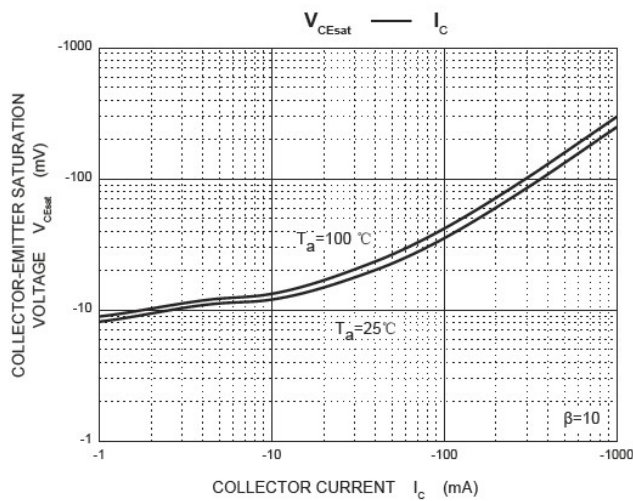
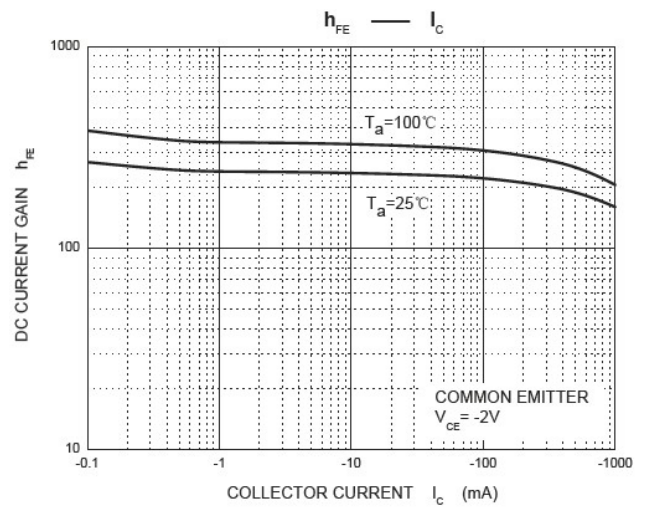
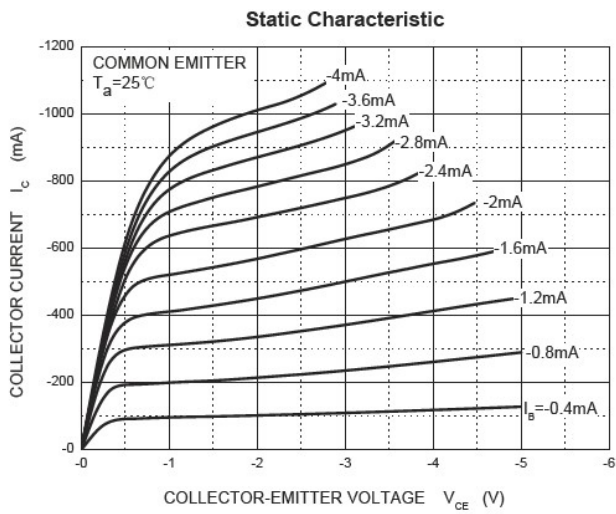
ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	V	$I_C=-10\text{mA}, I_B=0$	-30	---
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=-100\mu\text{A}, I_E=0$	-50	---
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	V	$I_E=-100\mu\text{A}, I_C=0$	-5.0	---
Collector cut-off Current	I_{CBO}	nA	$V_{CB}=-30\text{V}, I_E=0$	---	-100
Collector -emitter cut-off Current	I_{CES}	nA	$V_{CES}=-30\text{V}$	---	-100
Emitter cut-off Current	I_{EBO}	nA	$V_{EB}=-4\text{V}, I_C=0$	---	-100
DC Current Gain	$h_{FE(1)}$		$I_C=-1\text{mA}, V_{CE}=-2\text{V}$	100	---
	$h_{FE(2)}$		$I_C=-500\text{mA}, V_{CE}=-2\text{V}$	100	300
	$h_{FE(3)}$		$I_C=-1\text{A}, V_{CE}=-2\text{V}$	80	---
	$h_{FE(4)}$		$I_C=-2\text{A}, V_{CE}=-2\text{V}$	40	---
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=-500\text{mA}, I_B=-50\text{mA}$	---	-0.25
			$I_C=-1\text{A}, I_B=-100\text{mA}$	---	-0.30
			$I_C=-2\text{mA}, I_B=-200\text{mA}$	---	-0.65
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=-1\text{A}, I_B=-100\text{mA}$	---	-1.20
Base-Emitter Turn-on Voltage	$V_{BE(on)}$		$I_C=-1\text{A}, V_{CE}=-2\text{V}$	---	-1.10
Output Capacitance	C_{ob}	pF	$V_{CB}=20\text{V}, f=1.0\text{MHZ}, I_E=0$	---	150
Transition frequency	f_T	MHZ	$I_C=-100\text{mA}, V_{CE}=-5\text{V}$ $f=100\text{MHZ}$	100	---

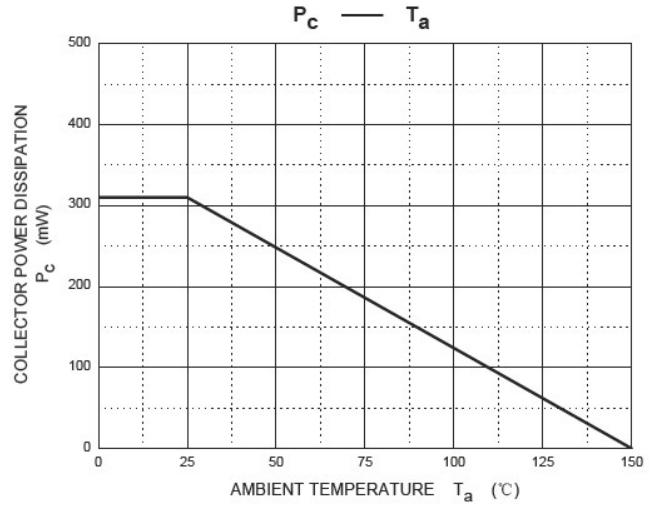
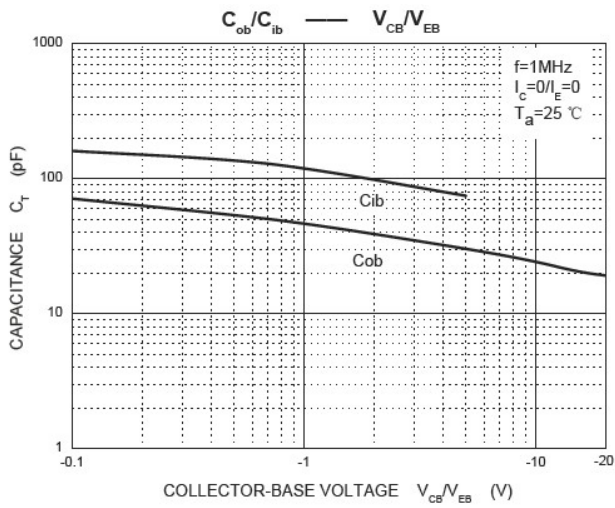
AVAILABLE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (Pcs/reel)	Quantity (pcs/box)	Quantity (pcs/carton)
MMBT589	T/R	Φ180	3K	30K	120K

Characteristics(Typical)

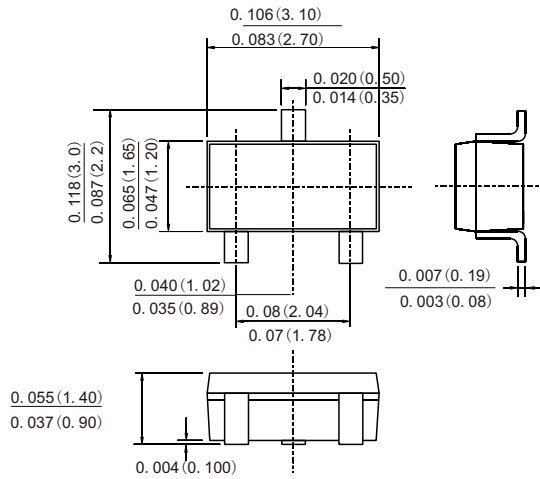


MMBT589



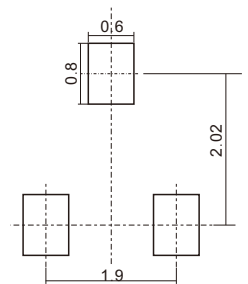
Outline Dimensions

SOT-23



Dimensions in inches and (millimeters)

Suggested pad layout



Dimensions in millimeters

Friendship Reminder

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