

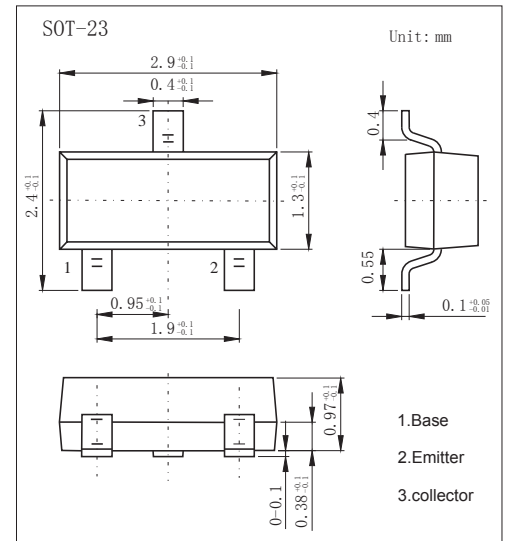
## SOT-23 Plastic-Encapsulate Transistors

### Features

- Collector Current Capability  $I_c=-0.5A$
- Collector Emitter Voltage  $V_{CE0}=-80V$
- PNP Transistors

### MECHANICAL DATA

- Case style:SOT-23molded plastic
- Mounting position:any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-80	V
Collector - Emitter Voltage	$V_{CE0}$	-80	
Emitter - Base Voltage	$V_{EB0}$	-4	
Collector Current - Continuous	$I_c$	-0.5	A
Collector Power Dissipation	$P_c$	225	mW
Derate Above 25°C		1.8	mW/°C
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature range	$T_{stg}$	-55 to 150	

### PACKAGE INFORMATION

Device	Package	Shipping
MMBTA56	SOT-23	3000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_c = -100 \mu A, I_E = 0$	-80			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_c = -1 mA, I_B = 0$	-80			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = -100 \mu A, I_c = 0$	-4			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -80 V, I_E = 0$			-0.1	$\mu A$
Collectorr cut-off current	$I_{CES}$	$V_{CE} = -60 V, I_E = 0$			-0.1	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4V, I_c = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -100 mA, I_B = -10mA$			-0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = -100 mA, I_B = -10mA$			-1.2	
Base - emitter on voltage	$V_{BE(on)}$	$V_{CE} = -1V, I_c = -100mA$			-1.2	
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_c = -10mA$	100			
		$V_{CE} = -1V, I_c = -100mA$	100			
Transition frequency	$f_T$	$V_{CE} = -1V, I_c = -100mA, f = 100MHz$	50			MHz

Note. Pulse Test: Pulse Width  $\leq 300 \mu s$ , Duty Cycle  $\leq 2.0\%$ .

### Marking

Marking	2GM
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# RATINGS AND CHARACTERISTIC CURVES

## ■ Typical Characteristics

Figure 1. Switching Time Test Circuits

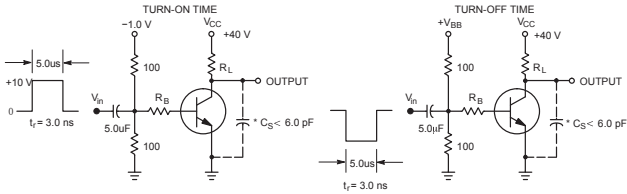


Figure 2. Current-Gain — Bandwidth Product

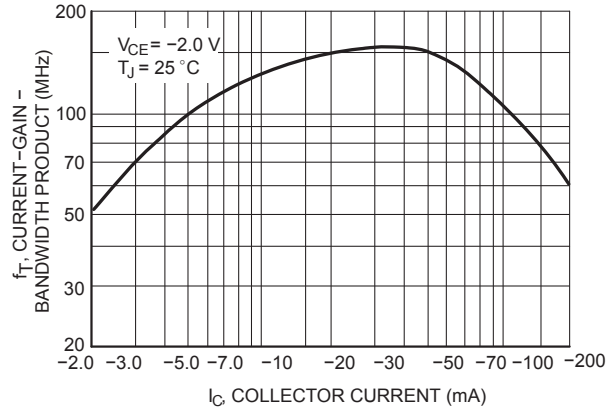


Figure 3. Capacitance

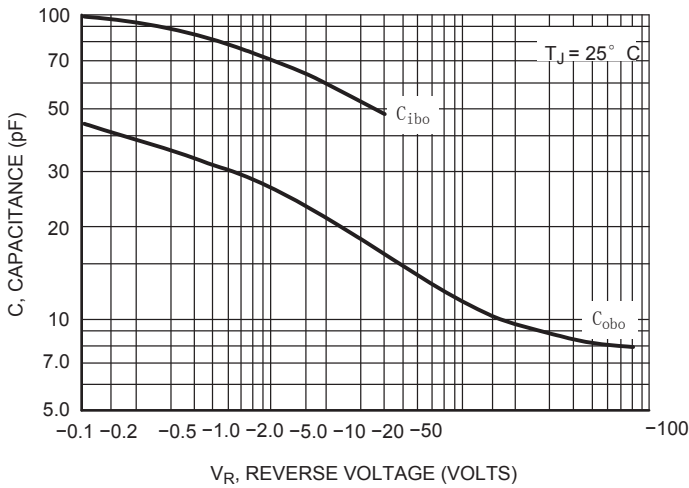


Figure 4. Switching Time

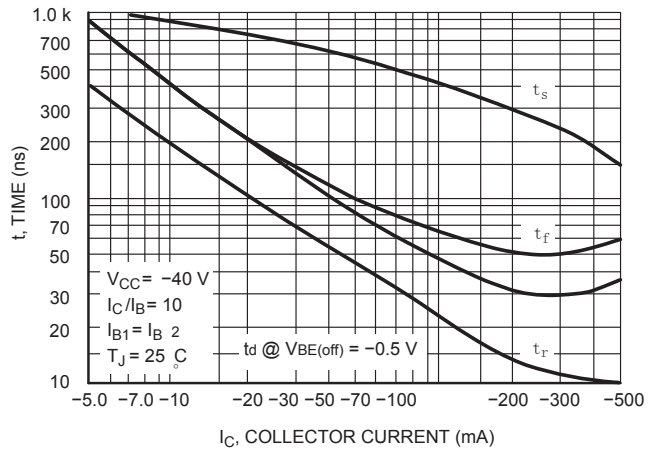


Figure 5. DC Current Gain

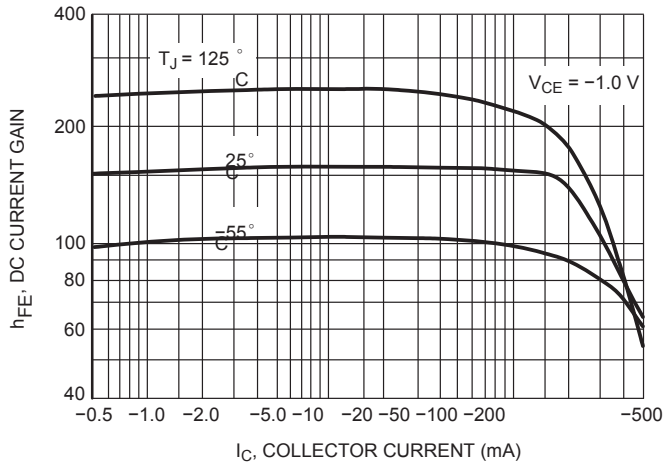
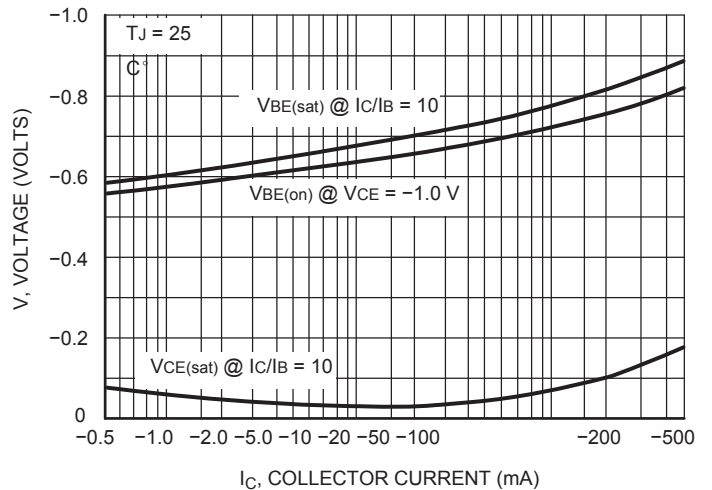


Figure 6. "ON" Voltages



■ Typical Characteristics

Figure 7. Collector Saturation Region

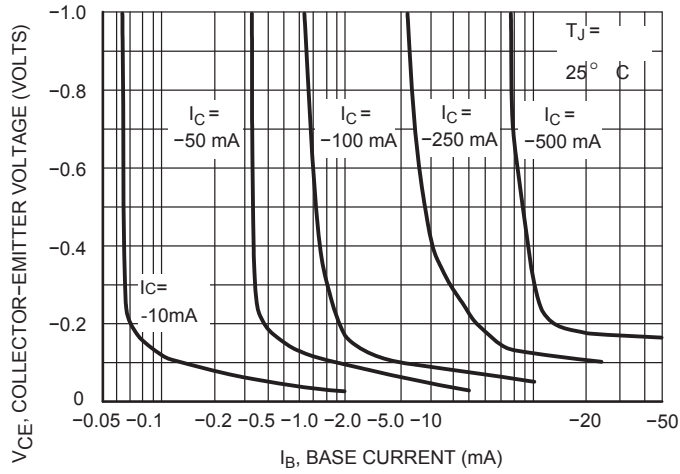


Figure 8. Base-Emitter Temperature Coefficient

