

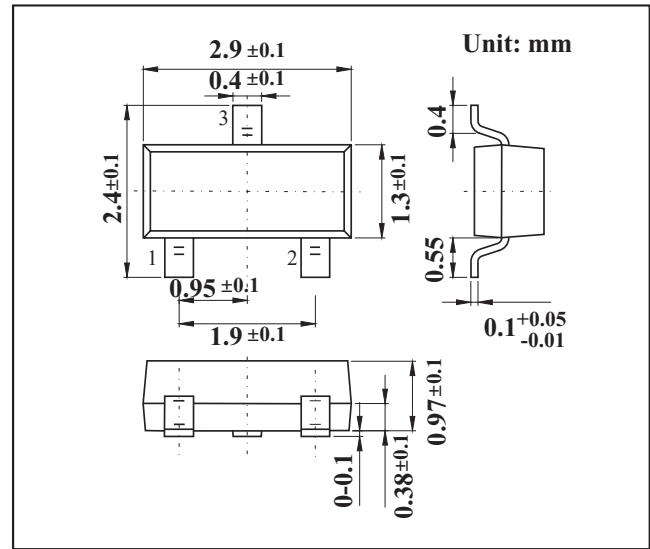
SOT-23 Plastic-Encapsulate Transistors

Features

- Collector Current Capability $I_C=-0.5A$
- Collector Emitter Voltage $V_{CEO}=-80V$
- 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	μA
Collector cut-off current	I_{CES}	$V_{CE} = -60 V, I_E = 0$			-0.1	
Emitter cut-off current	I_{EBO}	$V_{EB} = -4 V, I_C = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100 mA, I_B = -10 mA$			-0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100 mA, I_B = -10 mA$			-1.2	
Base - emitter on voltage	$V_{BE(on)}$	$V_{CE} = -1 V, I_C = -100 mA$			-1.2	
DC current gain	h_{FE}	$V_{CE} = -1 V, I_C = -10 mA$	100			
		$V_{CE} = -1 V, I_C = -100 mA$	100			
Transition frequency	f_T	$V_{CE} = -1 V, I_C = -100 mA, f = 100 MHz$	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

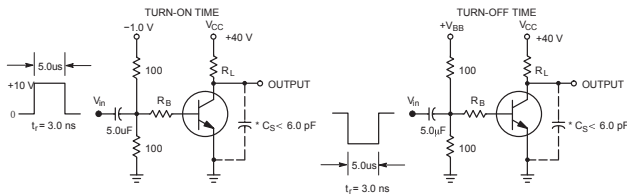


Figure 3. Capacitance

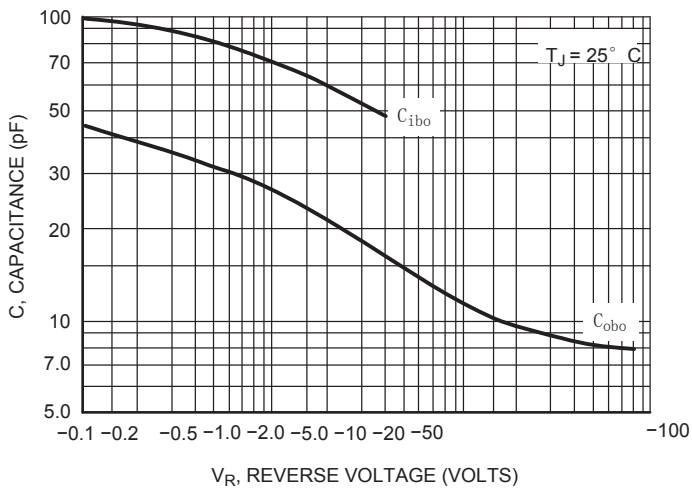


Figure 2. Current-Gain — Bandwidth Product

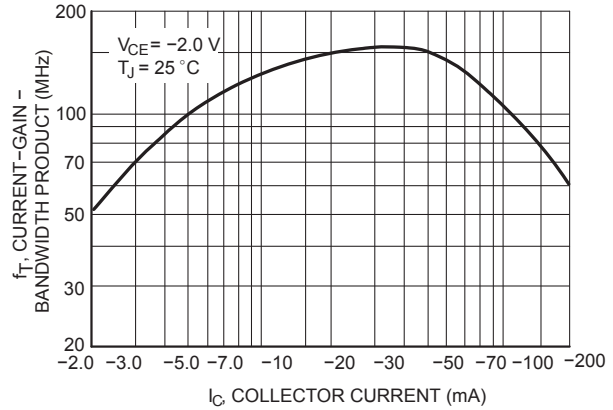


Figure 4. Switching Time

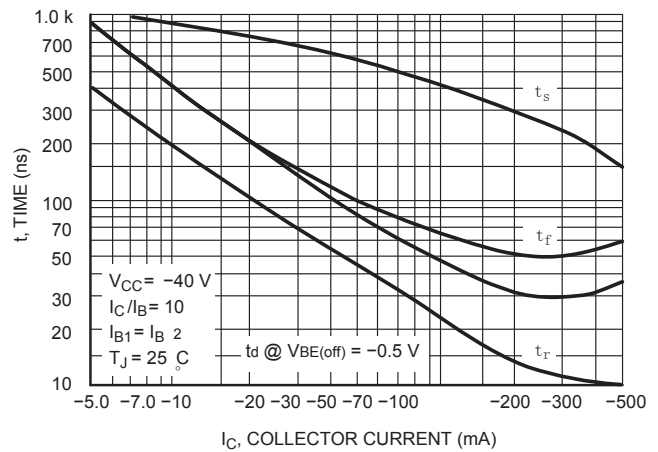


Figure 5. DC Current Gain

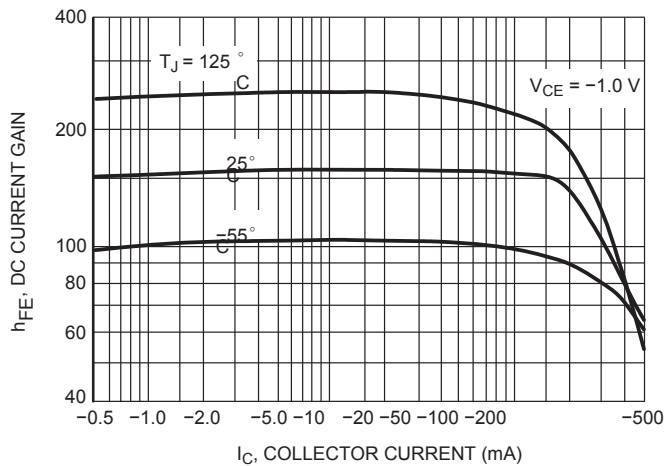
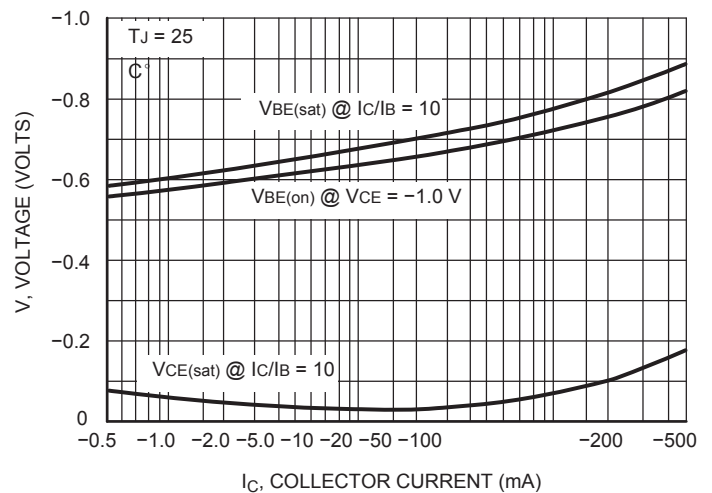


Figure 6. “ON” Voltages



RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics

Figure 7. Collector Saturation Region

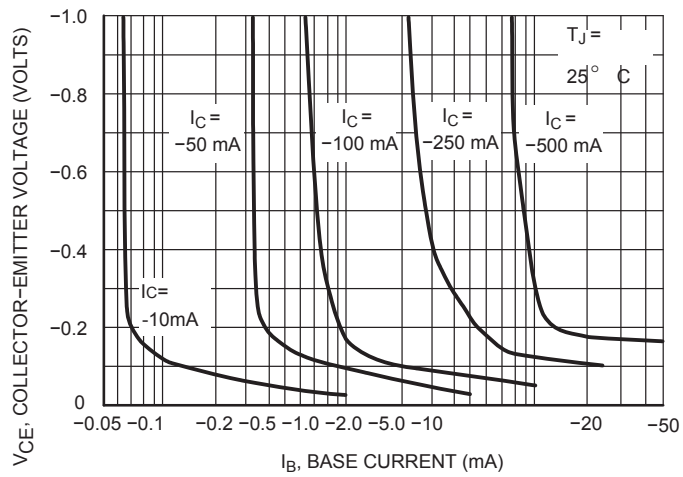


Figure 8. Base-Emitter Temperature Coefficient

