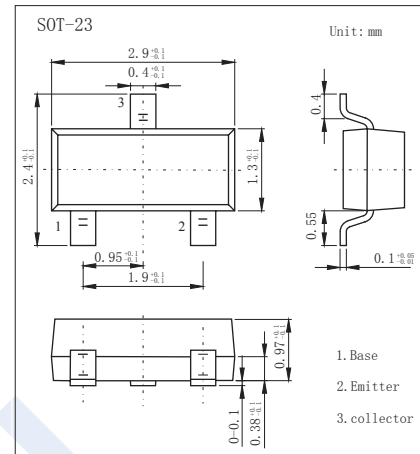
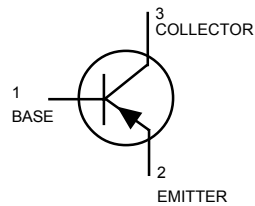


PNP Transistors

MMBT6520 (KMBT6520)

■ Features

- Collector-Emitter Voltage: $V_{CE0} = -350V$
- High Voltage Transistor



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-350	V
Collector - Emitter Voltage	V_{CEO}	-350	
Emitter - Base Voltage	V_{EBO}	-5	
Collector Current - Continuous	I_C	-500	mA
Base Current	I_B	-250	
Total Device Dissipation FR-5 Board (Note.1)	P_D	225	mW
Derate above 25°C		1.8	$\text{mW}/^\circ\text{C}$
Total Device Dissipation Alumina Substrate (Note.2)	P_D	300	mW
Derate above 25°C		2.4	$\text{mW}/^\circ\text{C}$
Thermal Resistance, Junction to Ambient (Note.1) (Note.2)	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
		417	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-55 to 150	

Note.1: FR-5 = 1.0 x 0.75 x 0.062 in.

Note.2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

PNP Transistors

MMBT6520 (KMBT6520)

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = -100 \mu\text{A}, I_E = 0$	-350			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = -1 \text{ mA}, I_B = 0$	-350			
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100 \mu\text{A}, I_C = 0$	-5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -250 \text{ V}, I_E = 0$			-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4 \text{ V}, I_C = 0$			-50	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$			-0.3	V
		$I_C = -20 \text{ mA}, I_B = -2 \text{ mA}$			-0.35	
		$I_C = -30 \text{ mA}, I_B = -3 \text{ mA}$			-0.5	
		$I_C = -50 \text{ mA}, I_B = -5 \text{ mA}$			-1	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$			-0.75	V
		$I_C = -20 \text{ mA}, I_B = -2 \text{ mA}$			-0.85	
		$I_C = -30 \text{ mA}, I_B = -3 \text{ mA}$			-0.9	
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = -10 \text{ V}, I_C = -100 \text{ mA}$			-2	
DC current gain	h_{FE}	$V_{CE} = -10 \text{ V}, I_C = -1 \text{ mA}$	20			
		$V_{CE} = -10 \text{ V}, I_C = -10 \text{ mA}$	30			
		$V_{CE} = -10 \text{ V}, I_C = -30 \text{ mA}$	30		200	
		$V_{CE} = -10 \text{ V}, I_C = -50 \text{ mA}$	20		200	
		$V_{CE} = -10 \text{ V}, I_C = -100 \text{ mA}$	15			
Emitter-base capacitance	C_{eb}	$V_{EB} = -0.5 \text{ V}, I_C = 0, f = 1 \text{ MHz}$			100	pF
Collector output capacitance	C_{ob}	$V_{CB} = -20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			6	
Transition frequency	f_T	$V_{CE} = -20 \text{ V}, I_C = -10 \text{ mA}, f = 20 \text{ MHz}$	40		200	MHz

■ Marking

Marking	2Z
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PNP Transistors

MMBT6520 (KMBT6520)

■ Typical Characteristics

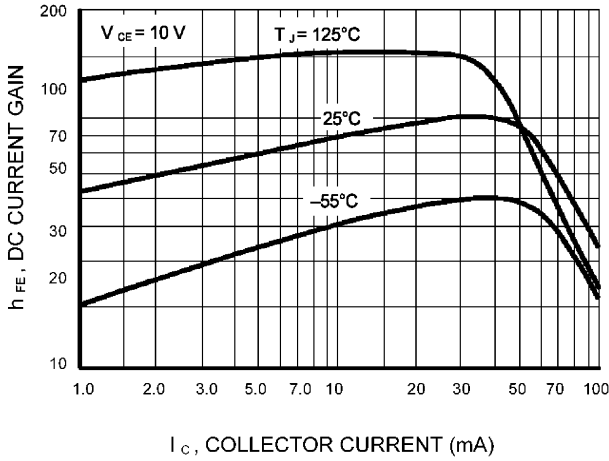


Figure 1. DC Current Gain

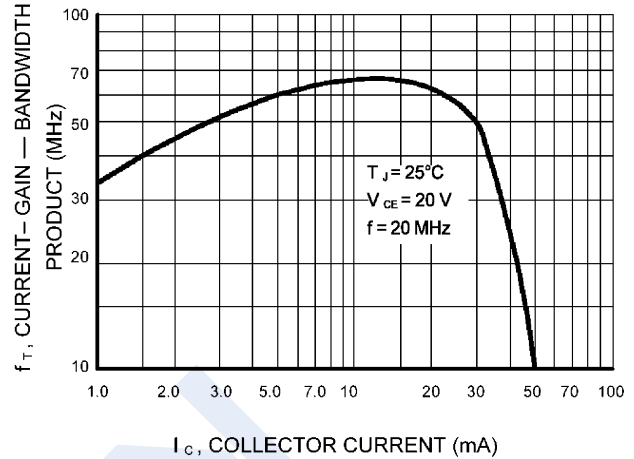


Figure 2. Current-Gain — Bandwidth Product

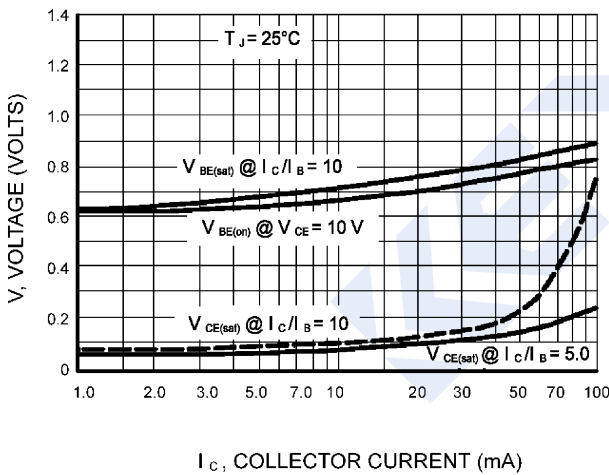


Figure 3. "On" Voltages

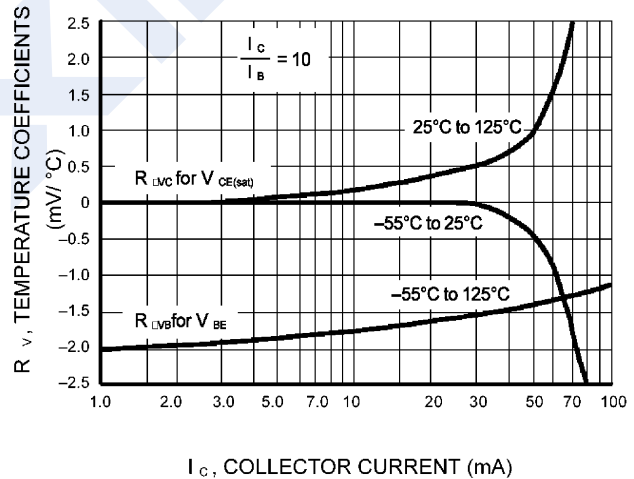


Figure 4. Temperature Coefficients

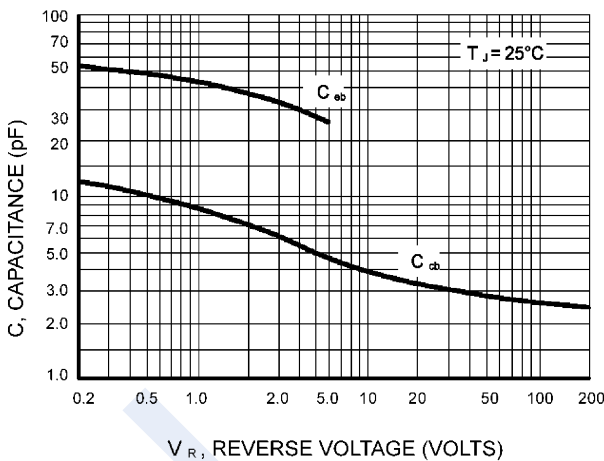


Figure 5. Capacitance

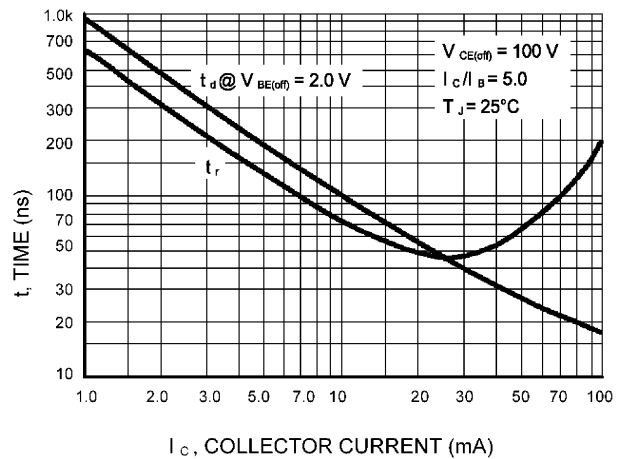


Figure 6. Turn-On Time

PNP Transistors

MMBT6520 (KMBT6520)

■ Typical Characteristics

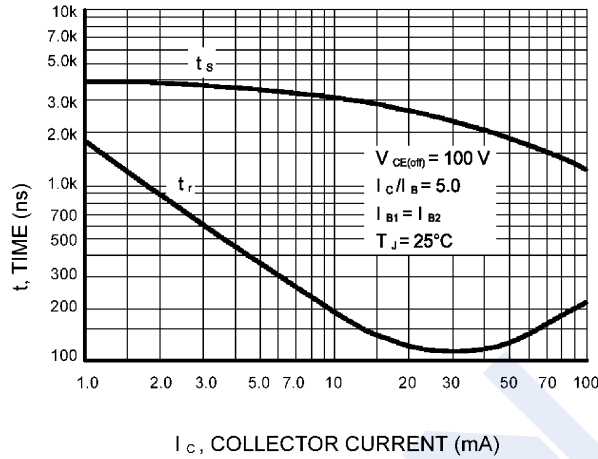


Figure 7. Turn-On Time

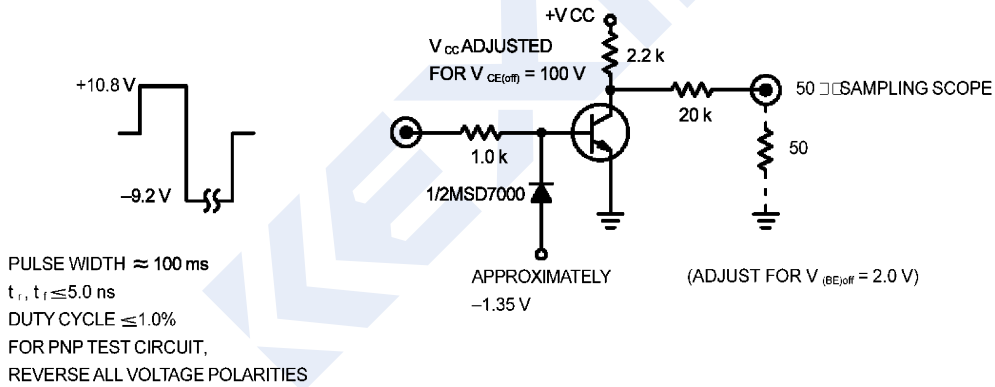


Figure 8. Switching Time Test Circuit

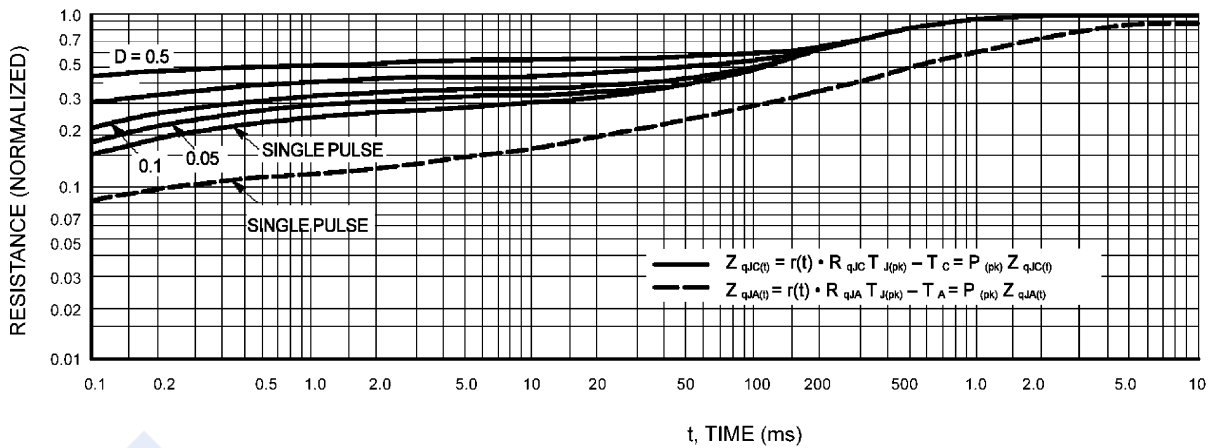


Figure 9. Thermal Response