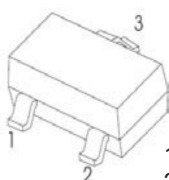


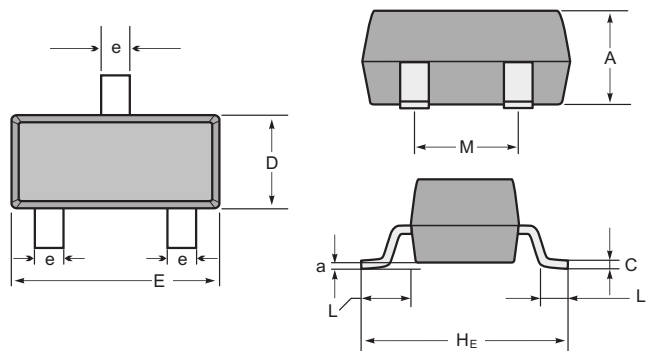
High Voltage Transistor

Features

- Collector-Emitter Voltage: $V_{CEO}=350V$
 - Collector Dissipation: $P_{C(max)}=250mW$
- MMBT6520



1.BASE
2.EMITTER
3.COLLECTOR



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	350	V
Collector-emitter voltage	BV_{CEO}	350	V
Emitter-base voltage	BV_{EBO}	6	V
Collector current	I_C	500	mA
Collector power dissipation	P_D	250	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~+150	°C

MMBT6517 NPN

Electrical Characteristics (Ta=25°C)

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

* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

RATING AND CHARACTERISTIC CURVES (MMBT6517)

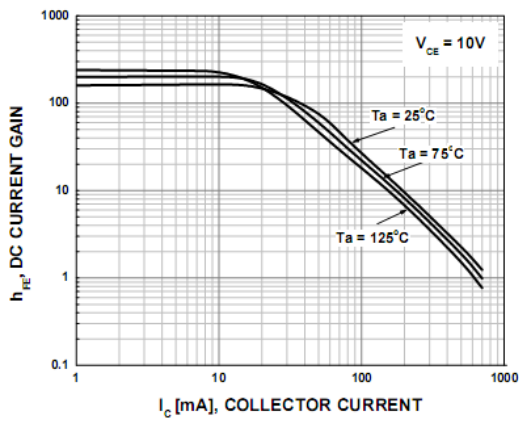


Figure 1. DC current Gain

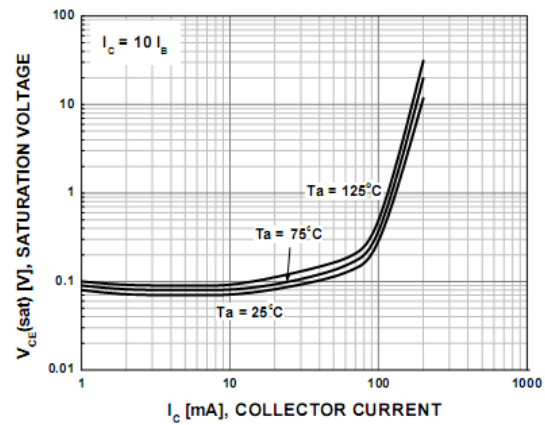


Figure2. Collector-Emitter Voltage

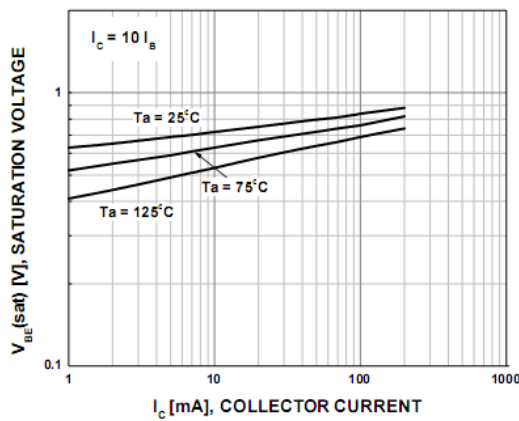


Figure 3. Saturation Voltage

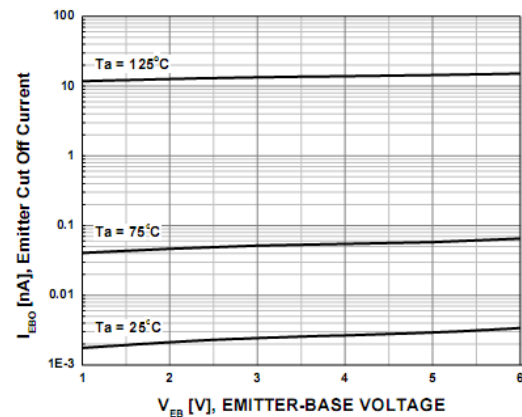


Figure 4. Emitter Cut Off Current

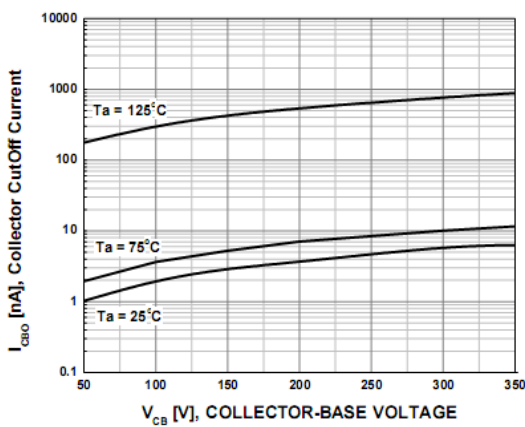


Figure 5. Collector CutOff Current

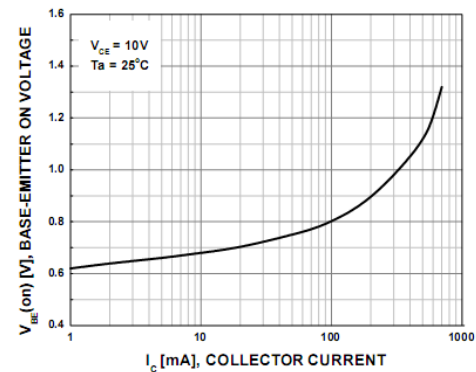


Figure 6. Base-Emitter On Voltage

Figure 6. Base-Emitter On Voltage

RATING AND CHARACTERISTIC CURVES (MMBT6517)

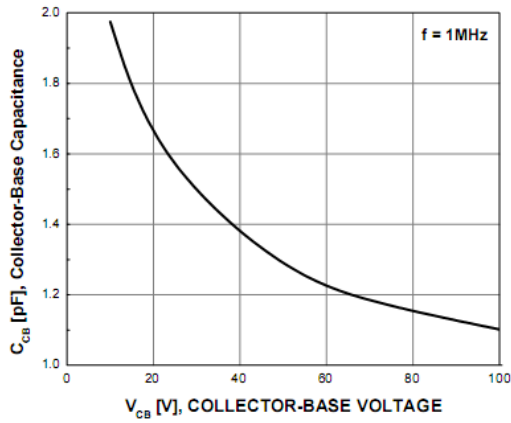


Figure 7. Output Capacitance

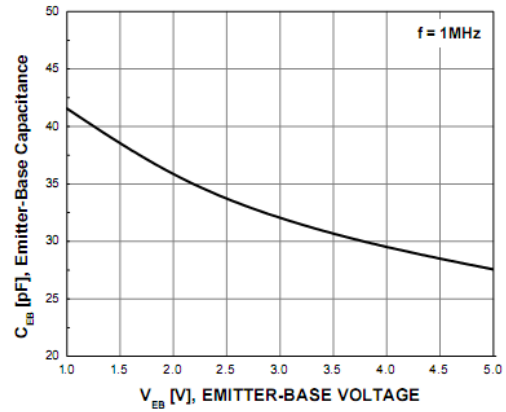


Figure 8. Input Capacitance

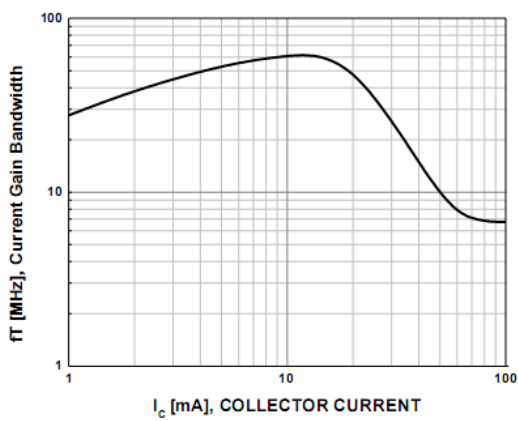


Figure 9. Current Gain Bandwidth Product

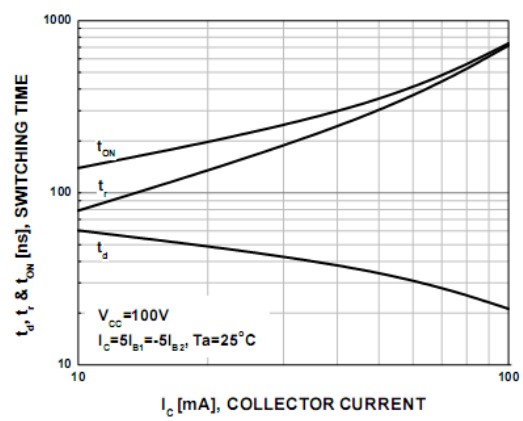


Figure 10. Resistive Load Switching

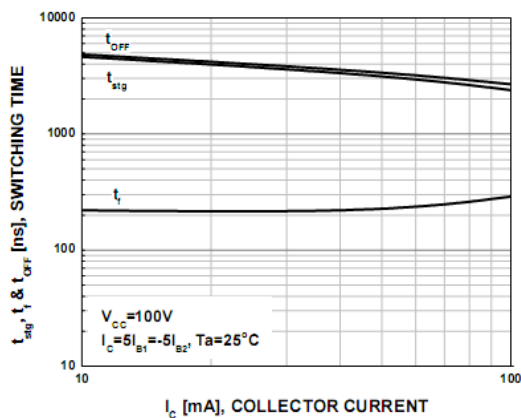


Figure 11. Resistive Load Switching