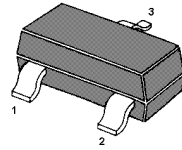


MMBTSD1616

NPN Silicon Epitaxial Planar Transistor

high collector power dissipation.



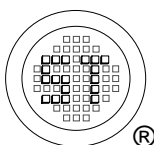
1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	1	A
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

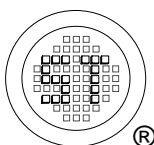
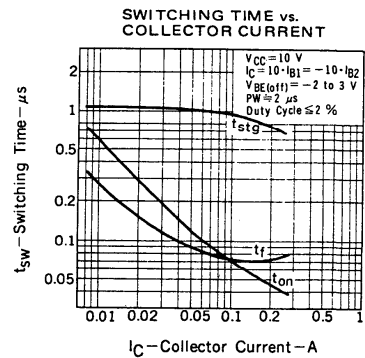
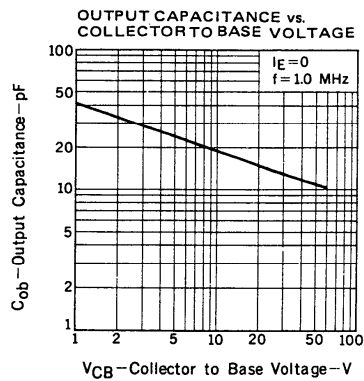
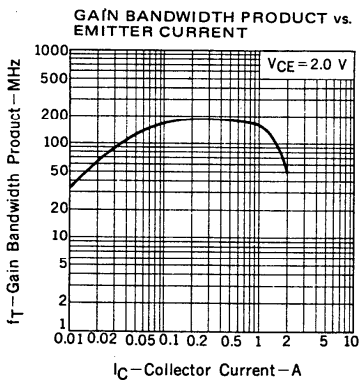
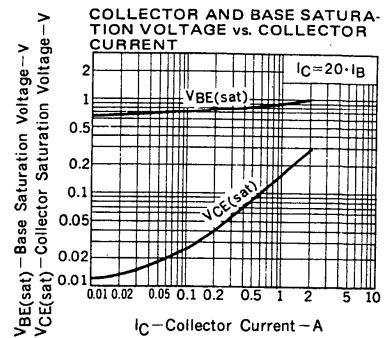
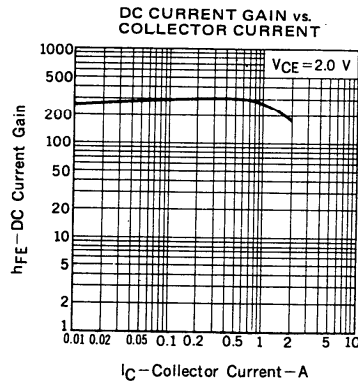
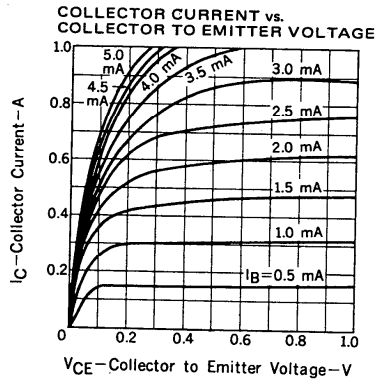
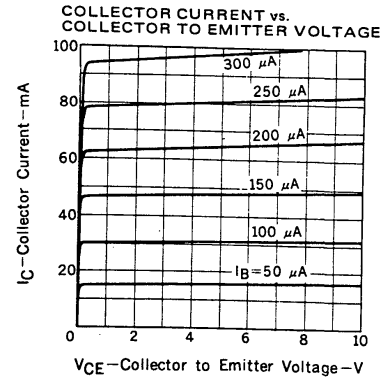
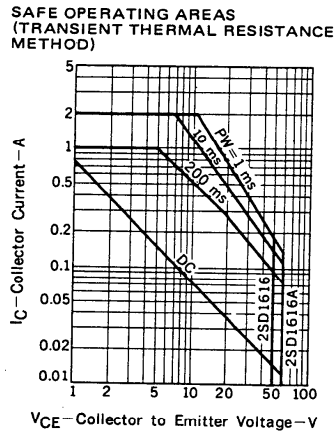
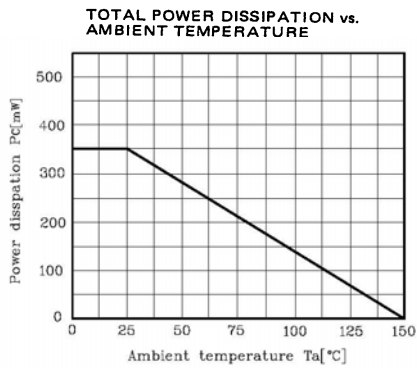
Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 0.1\text{ A}$ at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$ Current Gain Group	R	h_{FE}	135	-	270	-
	O	h_{FE}	200	-	400	-
	Y	h_{FE}	300	-	600	-
		h_{FE}	81	-	-	-
Collector Base Cutoff Current at $V_{CB} = 60\text{ V}$	I_{CBO}	-	-	100	nA	
Emitter Base Cutoff Current at $V_{EB} = 6\text{ V}$	I_{EBO}	-	-	100	nA	
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	60	-	-	V	
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	$V_{(BR)CEO}$	50	-	-	V	
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	-	-	V	
Collector Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V	
Base Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	-	1.2	V	
Base Emitter On Voltage at $V_{CE} = 2\text{ V}$, $I_C = 50\text{ mA}$	$V_{BE(on)}$	0.6	-	0.7	V	
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	19	pF	
Transition Frequency at $V_{CE} = 2\text{ V}$, $I_C = 0.1\text{ A}$	f_T	100	-	-	MHz	
Turn-on Time at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$, $I_{B1} = -I_{B2} = 10\text{ mA}$	t_{on}	-	70	-	ns	
Storage Time at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$, $I_{B1} = -I_{B2} = 10\text{ mA}$	t_s	-	950	-	ns	
Fall Time at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$, $I_{B1} = -I_{B2} = 10\text{ mA}$	t_f	-	70	-	ns	



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