

2SB0944 (2SB944)

Silicon PNP epitaxial planar type

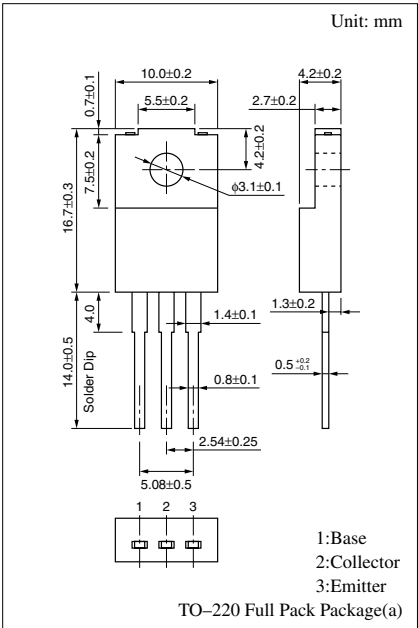
For power switching
Complementary to 2SD1269

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Large collector current I_C
- Full-pack package which can be installed to the heat sink with one screw

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

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	−130	V
Collector to emitter voltage		V_{CEO}	−80	V
Emitter to base voltage		V_{EBO}	−7	V
Peak collector current		I_{CP}	−8	A
Collector current		I_C	−4	A
Collector power	$T_C=25^{\circ}\text{C}$	P_C	35	W
dissipation	$T_a=25^{\circ}\text{C}$		2	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	−55 to +150	$^{\circ}\text{C}$



Electrical Characteristics ($T_C=25^\circ\text{C}$)

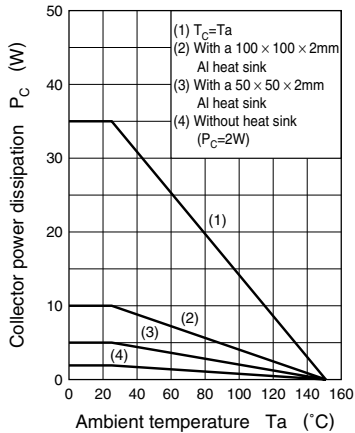
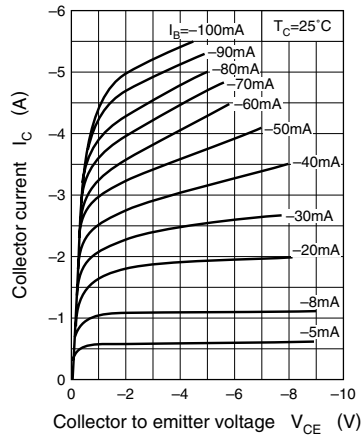
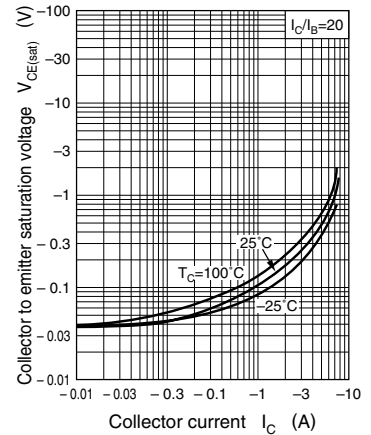
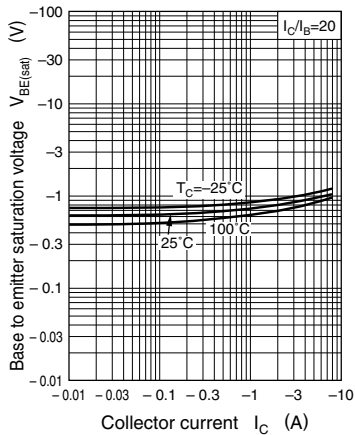
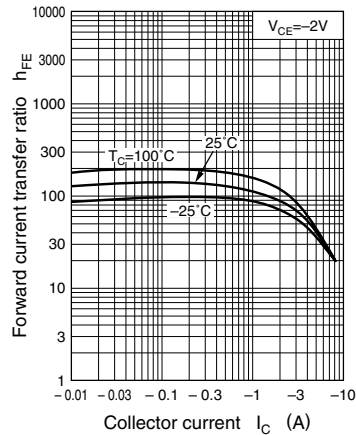
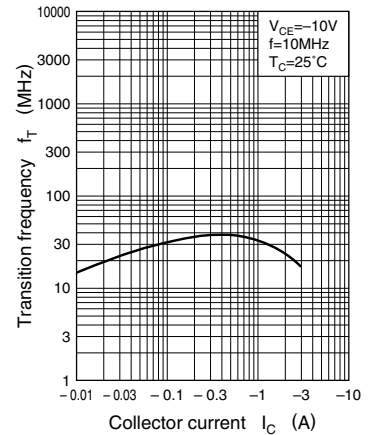
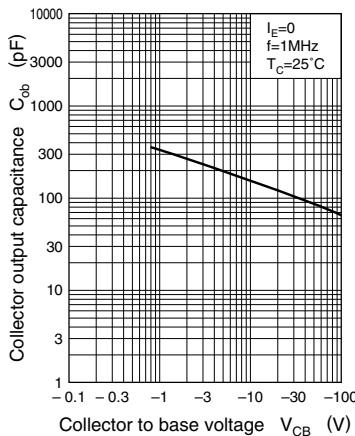
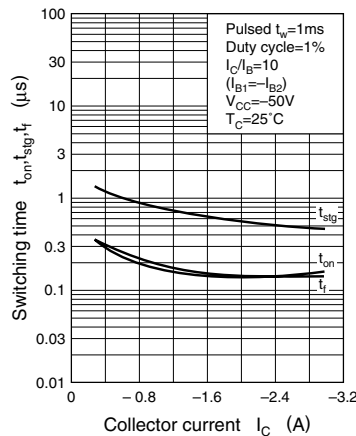
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -100\text{V}, I_E = 0$			-10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-50	μA
Collector to emitter voltage	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-80			V
Forward current transfer ratio	h_{FE1}	$V_{CE} = -2\text{V}, I_C = -0.1\text{A}$	45			
	h_{FE2}^*	$V_{CE} = -2\text{V}, I_C = -1\text{A}$	90		260	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{A}, I_B = -0.15\text{A}$			-0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -3\text{A}, I_B = -0.15\text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 10\text{MHz}$		30		MHz
Turn-on time	t_{on}	$I_C = -1\text{A}, I_{B1} = -0.1\text{A}, I_{B2} = 0.1\text{A}$		0.15		μs
Storage time	t_{stg}			0.8		μs
Fall time	t_f			0.15		μs

* h_{FE2} Rank classification

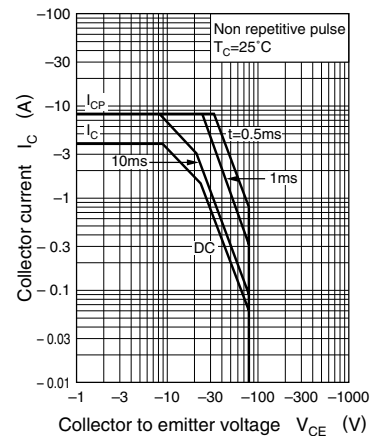
Rank	Q	P
h_{FE2}	90 to 180	130 to 260

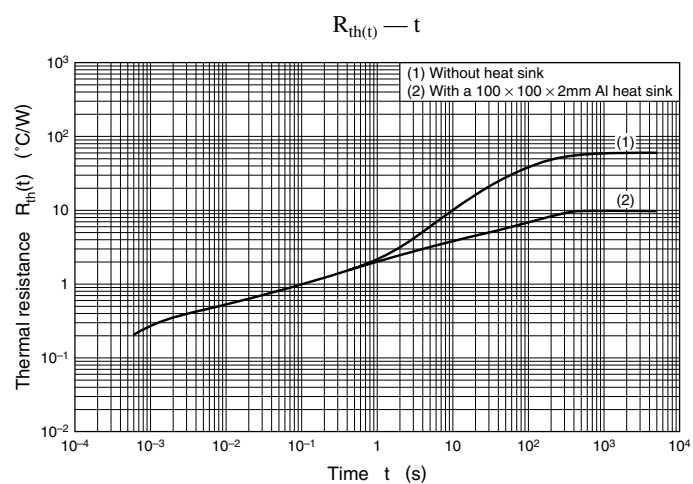
Note: Ordering can be made by the common rank (PQ rank $h_{FE2} = 90$ to 260) in the rank classification.

Note.) The Part number in the Parenthesis shows conventional part number.

$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(\text{sat})} - I_C$  $V_{BE(\text{sat})} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$  $t_{on}, t_{stg}, t_f - I_C$ 

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