

2SD1268

Silicon NPN epitaxial planar type

For power switching

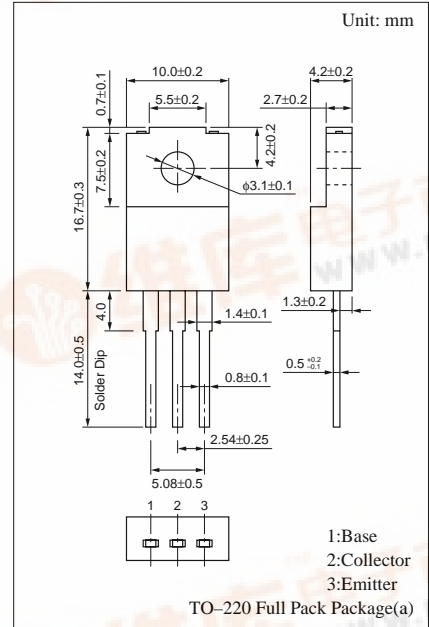
Complementary to 2SB943

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 ($T_C=25^\circ C$)

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}	6	A	
Collector current	I_C	3	A	
Collector power dissipation	P_C	$T_C=25^\circ C$	30	W
		$T_a=25^\circ C$	2	
Junction temperature	T_j	150	$^\circ C$	
Storage temperature	T_{stg}	-55 to +150	$^\circ C$	



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

Parameter	Symbol	Conditions	min	typ	max	Unit	
Collector cutoff current	I_{CBO}	$V_{CB} = 100V, I_E = 0$			10	μA	
Emitter cutoff current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			50	μA	
Collector to emitter voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	80			V	
Forward current transfer ratio	h_{FE1}	$V_{CE} = 2V, I_C = 0.1A$	45				
	h_{FE2}^*	$V_{CE} = 2V, I_C = 0.5A$	60		260		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 0.1A$			0.5	V	
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 0.1A$			1.5	V	
Transition frequency	f_T	$V_{CE} = 10V, I_C = 0.5A, f = 10MHz$		30		MHz	
Turn-on time	t_{on}	$I_C = 0.5A, I_{B1} = 50mA, I_{B2} = -50mA, V_{CC} = 50V$		0.5		μs	
Storage time	t_{stg}				2.5		μs
Fall time	t_f				0.15		μs

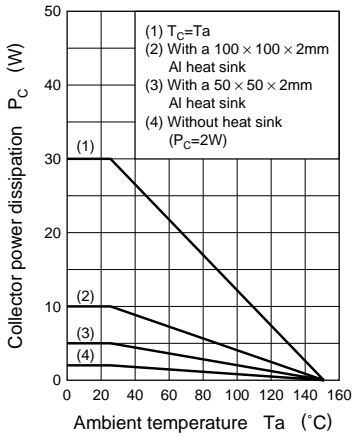
* h_{FE2} Rank classification

Rank	R	Q	P
Rank	60 to 120	90 to 180	130 to 260

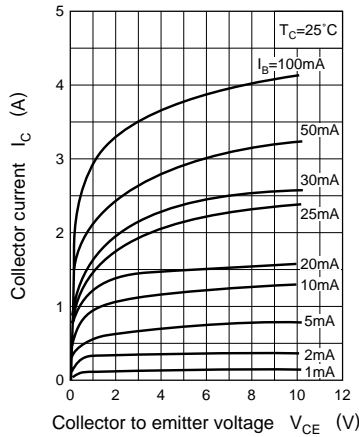
Note: Ordering can be made by the common rank (PQ rank $h_{FE} = 90$ to 260) in the rank classification.



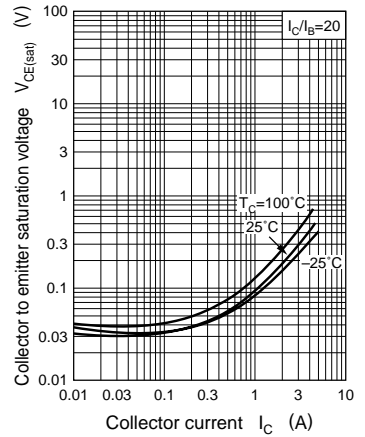
$P_C - T_a$



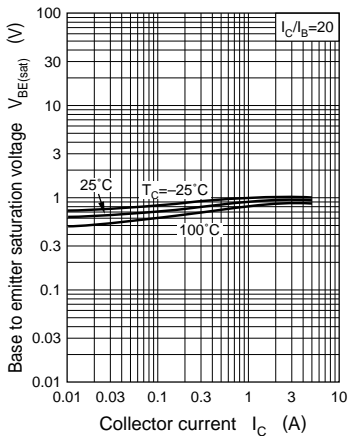
$I_C - V_{CE}$



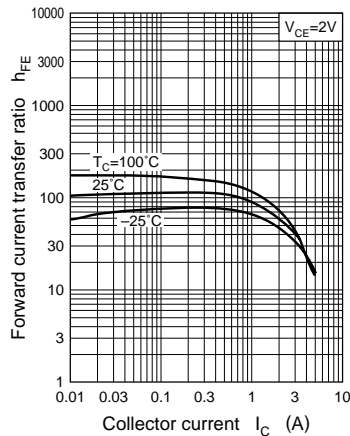
$V_{CE(sat)} - I_C$



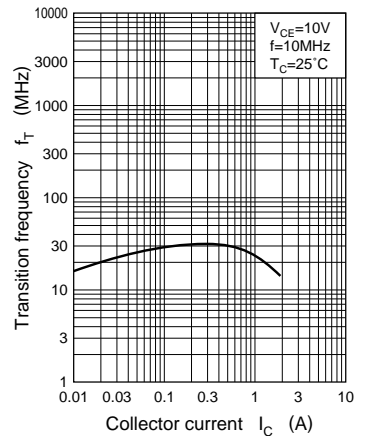
$V_{BE(sat)} - I_C$



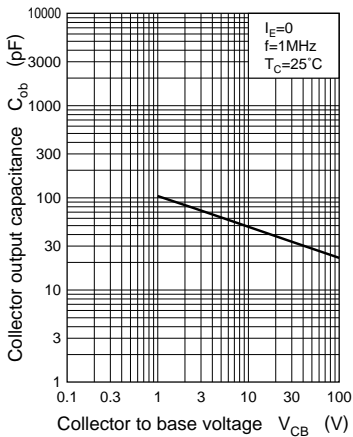
$h_{FE} - I_C$



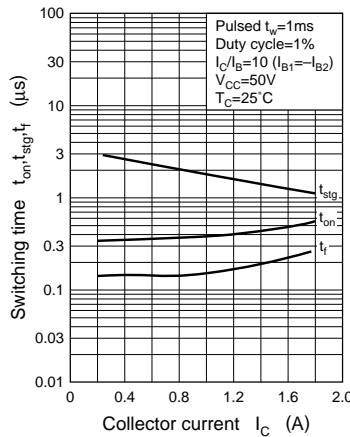
$f_T - I_C$



$C_{ob} - V_{CB}$



$t_{on}, t_{stg}, t_f - I_C$



Area of safe operation (ASO)

