

2SD1444, 2SD1444A

Silicon NPN Epitaxial Planar Type

Power Amplifier
Low Voltage Switching
Complementary Pair with 2SB956

■ Features

- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- High speed switching
- Good linearity of DC current gain (h_{FE})
- High collector current (I_C)
- "Full Pack" package for simplified mounting on a heat sink with one screw

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

Item	Symbol	Value	Unit
Collector-base voltage	2SD1444	40	V
	2SD1444A	50	
Collector-emitter voltage	2SD1444	20	V
	2SD1444A	40	
Emitter-base voltage	V_{EB0}	5	V
Peak collector current	I_{CP}	12	A
Collector current	I_C	7	A
Collector power dissipation	$T_c=25^\circ\text{C}$	30	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

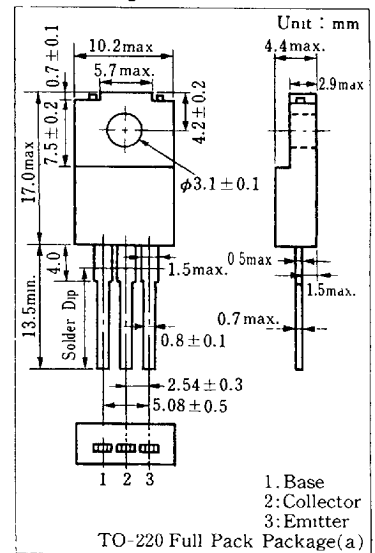
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min	typ.	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=40\text{ V}, I_E=0$			50	μA
		$V_{CB}=50\text{ V}, I_F=0$			50	
Emitter cutoff current	I_{EBO}	$V_{EB}=5\text{ V}, I_C=0$			50	μA
Collector-emitter voltage	V_{CE0}	$I_C=10\text{ mA}, I_B=0$	20			V
			40			
DC current gain	h_{FE1}	$V_{CE}=2\text{ V}, I_C=0.1\text{ A}$	45			
	h_{FE2}^*	$V_{CE}=2\text{ V}, I_C=2\text{ A}$	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=5\text{ A}, I_B=0.16\text{ A}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=5\text{ A}, I_B=0.16\text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=10\text{ MHz}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{ V}, I_E=0, f=1\text{ MHz}$		110		pF
Turn-on time	t_{on}	$I_C=2\text{ A}, I_{B1}=66\text{ mA}, I_{B2}=-66\text{ mA}$ $V_{CC}=20\text{ V}$		0.3		μs
Storage time	t_{stg}			0.3		μs
Fall time	t_f			0.1		μs

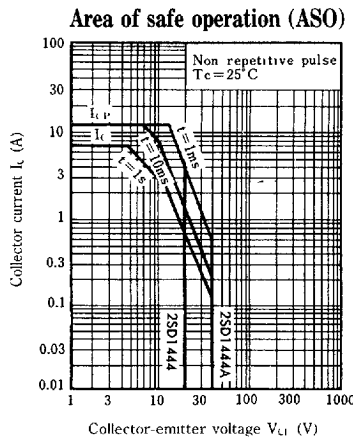
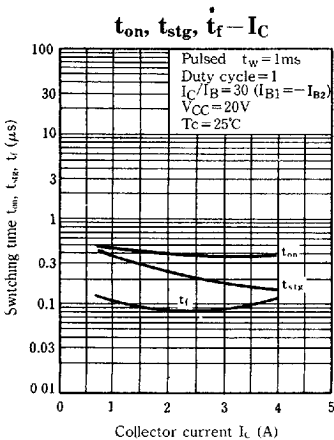
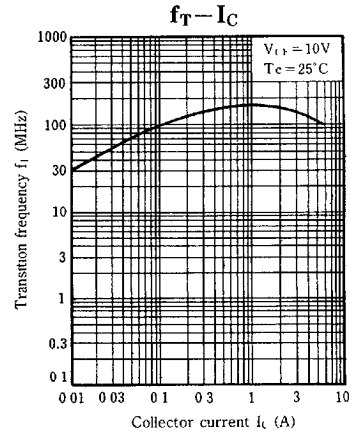
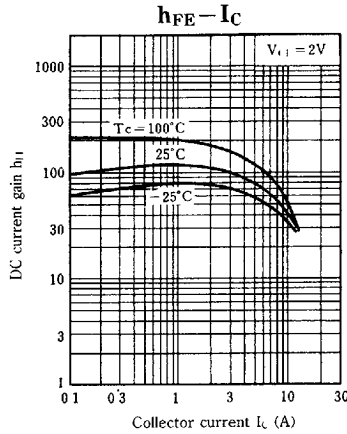
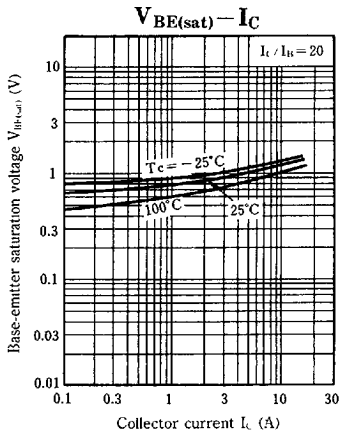
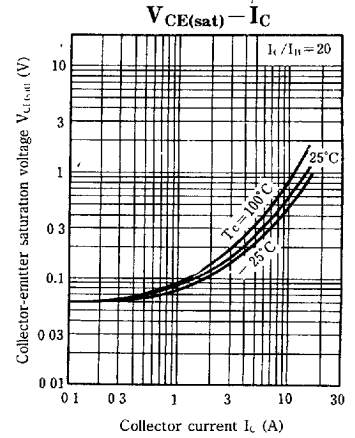
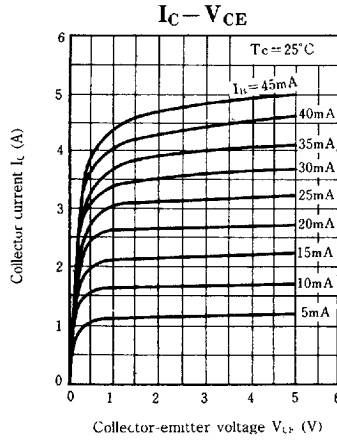
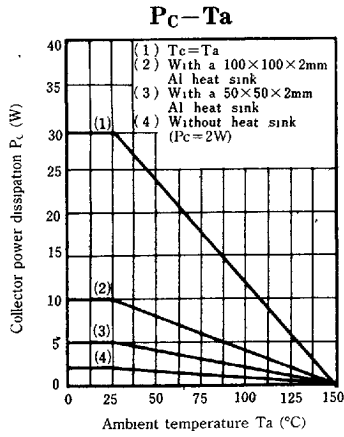
* h_{FE2} Classifications

Class	R	Q	P
h_{FE2}	60 ~ 120	90 ~ 180	130 ~ 260

■ Package Dimensions



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Note) Refer to P.676 (on 2SD1273/A) for $R_{\theta(jc)} - t$ characteristics.