

2SD1444, 2SD1444A

Silicon NPN Epitaxial Planar Type

Power Amplifier
Low Voltage Switching
Complementary Pair with 2SB956

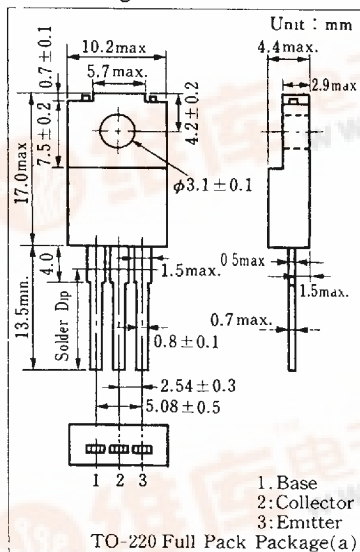
■ Features

- 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 ($T_c=25^\circ C$)

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

■ Package Dimensions

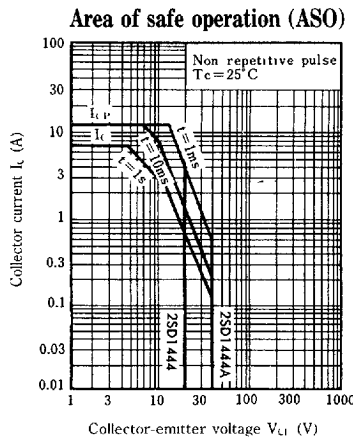
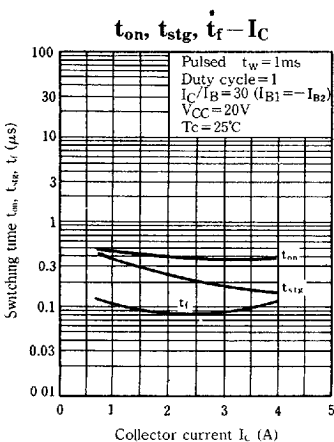
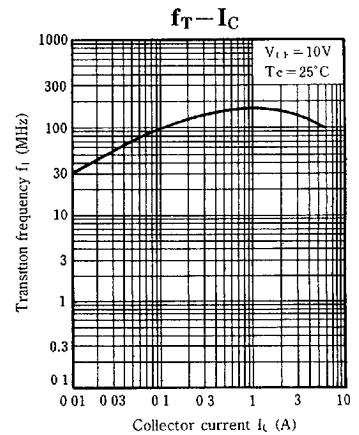
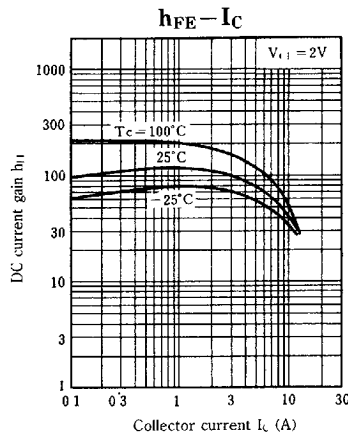
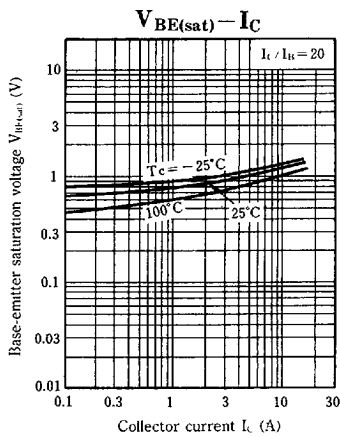
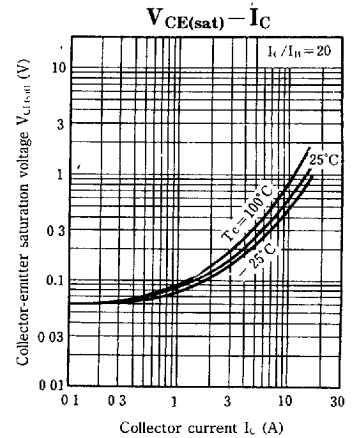
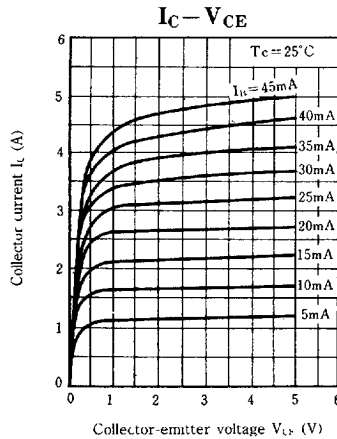
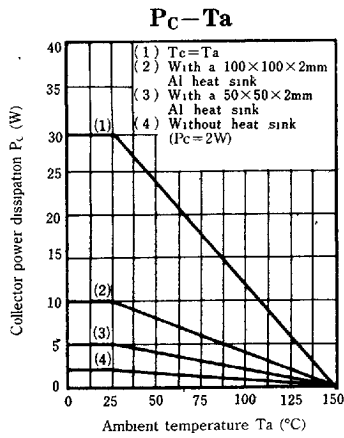


■ Electrical Characteristics ($T_c=25^\circ C$)

Item	Symbol	Condition	min	typ.	max	Unit
Collector cutoff current	2SD1444	$V_{CB}=40V, I_E=0$			50	μA
	2SD1444A	$V_{CB}=50V, I_F=0$			50	
Emitter cutoff current	I_{EBO}	$V_{EB}=5V, I_C=0$			50	μA
Collector-emitter voltage	2SD1444	$I_C=10mA, I_B=0$	20			V
	2SD1444A		40			
DC current gain	h_{FF1}	$V_{CE}=2V, I_C=0.1A$	45			
	h_{FF2}^*	$V_{CE}=2V, I_C=2A$	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=5A, I_B=0.16A$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=5A, I_B=0.16A$			1.5	V
Transition frequency	f_T	$V_{CE}=10V, I_C=0.5A, f=10MHz$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		110		pF
Turn-on time	t_{on}	$I_C=2A, I_{B1}=66mA, I_{B2}=-66mA$ $V_{CC}=20V$		0.3		μs
Storage time	t_{stg}			0.3		μs
Fall time	t_f			0.1		μs

*D_{FE2} Classifications

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



Note) Refer to P.676 (on 2SD1273/A) for $R_{th(j-c)}$ - t characteristics.