



High-Definition CRT Display Applications

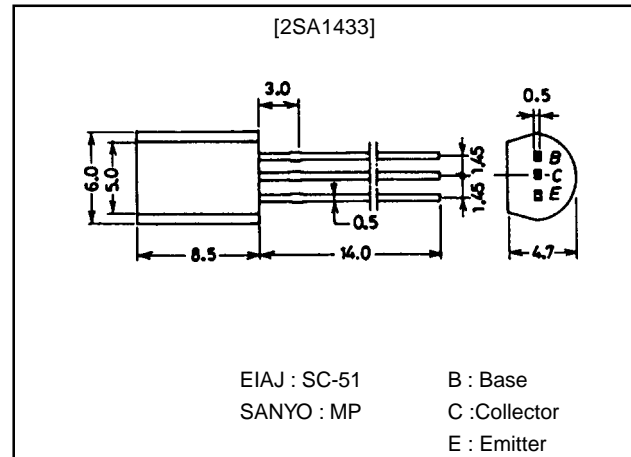
Features

- High f_T (Gain-Bandwidth Product).
- Small reverse transfer capacitance ($C_{re}=1.3\text{pF}$).
- Adoption of FBET process.

Package Dimensions

unit:mm

2006A



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-70	V
Collector-to-Emitter Voltage	V_{CEO}		-60	V
Emitter-to-Base Voltage	V_{EBO}		-4	V
Collector Current	I_C		-50	mA
Collector Current (Pulse)	I_{CP}		-100	mA
Collector Dissipation	P_C		900	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

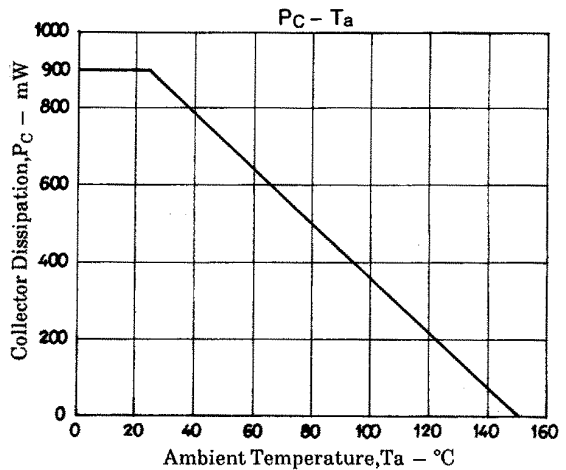
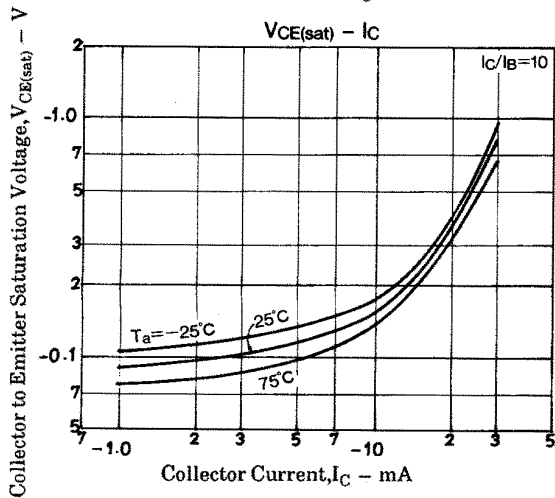
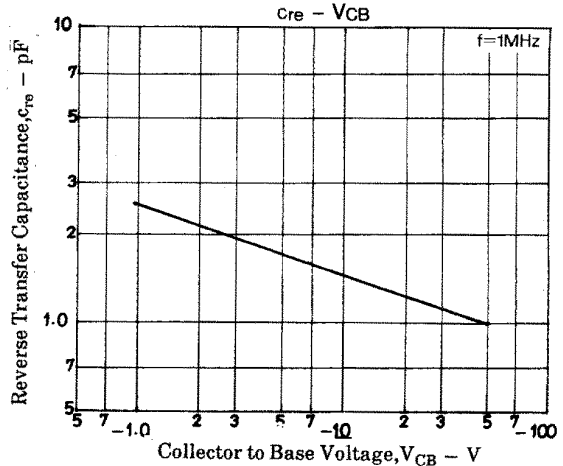
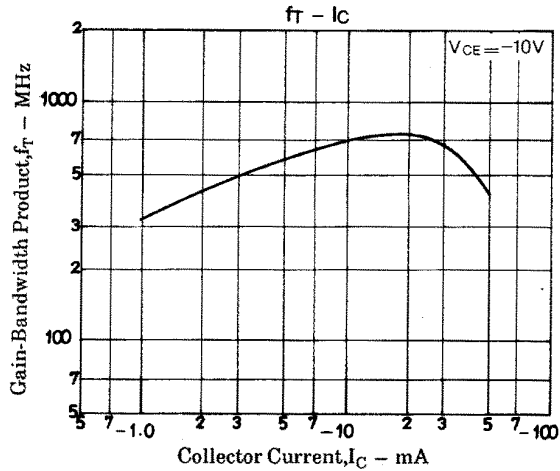
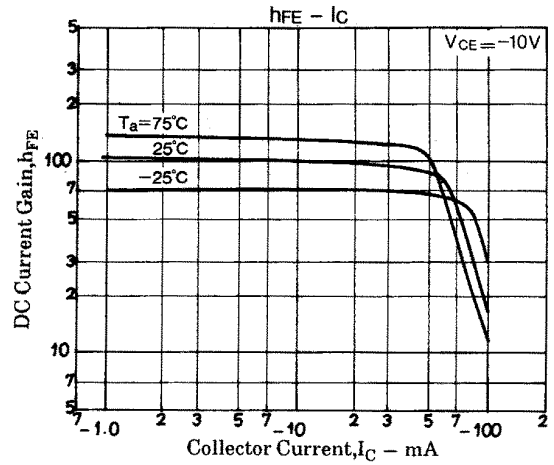
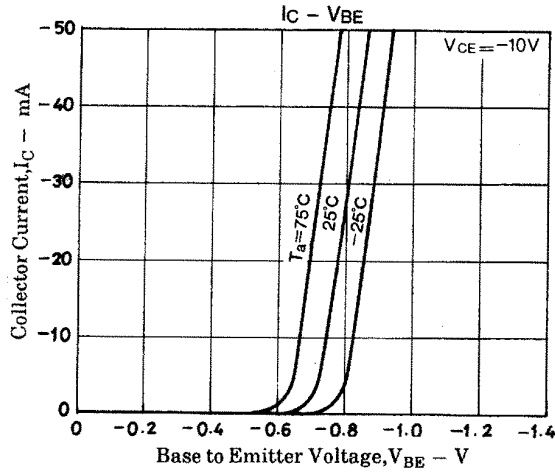
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-3\text{V}, I_C=0$			(-)1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=-10\text{V}, I_C=-10\text{mA}$	60*		320*	
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-10\text{mA}$	350	700		MHz
Base-to-Collector Time Constant	τ_{bb}, τ_c	$V_{CE}=-10\text{V}, I_C=-10\text{mA}$		8		
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		1.7		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		1.3		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-20\text{mA}, I_B=-2\text{mA}$			-0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-20\text{mA}, I_B=-2\text{mA}$			-1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, R_{BE}=\infty$	-60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-4			V

* : The 2SA1433 is classified by 10mA h_{FE} as follows :

60	D	120	100	E	200	160	F	320
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 h_{FE} rank : D, E, F

2SA1433



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