

Delivering high breakdown voltage plus high frequency characteristics.

High- f_T Transistors 2SA2140/2SC5993

■ Overview

2SA2140/2SC5993 high- f_T transistors deliver a typical f_T value of 100MHz or higher at V_{CEO} of 180V while featuring high-speed switching and low-saturation voltage characteristics. Making use of these transistors assists the production of power saving equipment having high frequency characteristics.

■ Feature

- High transition frequency (f_T) – a four-fold plus increase over conventional Panasonic models.
- High-speed switching – over 70% less rise time (t_f) compared to conventional Panasonic models.
- Excellent linearity characteristics for forward current transfer ratio (h_{FE}).
- Low collector/emitter saturation voltage ($V_{CE(sat)}$).
- Full-pack package allows easy heatsink-mounting with a single screw.

■ Applications

High-speed switching

■ Main Characteristics

• Absolute Maximum Ratings

Parameter	2SA2140	2SC5993
V_{CBO} (V)	-180	180
V_{CEO} (V)	-180	180
V_{EBO} (V)	-6	6
I_C (A)	-1.5	1.5

• Electrical Characteristics

Parameter	Condition	2SA2140	2SC5993
h_{FE}	$V_{CE}=5V, I_C=0.1A$	60 to 240	60 to 240
$V_{CE(sat)}$	(V) $I_C=1A, I_B=0.1A$	< -0.5	< 0.5
t_{on}	(μs) $I_C=0.4A, I_{B1}=0.04A,$ $I_{B2}=-0.04A, V_{cc}=100V$	typ. 0.1	typ. 0.1
t_{stg}	(μs)	typ. 1.0	typ. 1.5
t_f	(μs)	typ. 0.1	typ. 0.1
f_T	(MHz) $V_{CE}=10V, I_C=0.2A, f=10MHz$	100	130
C_{ob}	(pF) $V_{CB}=10V, f=1MHz$	30	20



