

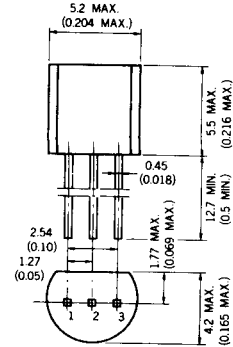
DESCRIPTION The 2SA1153 is designed for general purpose amplifier and high speed switching applications.

- FEATURES**
- High Frequency Current Gain.
 - High Speed Switching.
 - Small Output Capacitance.
 - Low Collector Saturation Voltage.
 - Complementary to the NEC 2SC2720 NPN transistor.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Maximum Temperatures	
Storage Temperature	−55 to +150 °C
Junction Temperature	150 °C Maximum
Maximum Power Dissipation ($T_a = 25^\circ\text{C}$)	
Total Power Dissipation	600 mW
Maximum Voltages and Current ($T_a = 25^\circ\text{C}$)	
V_{CB0} Collector to Base Voltage	−60 V
V_{CEO} Collector to Emitter Voltage	−40 V
V_{EBO} Emitter to Base Voltage	−5.0 V
I_C Collector Current (DC)	−500 mA

PACKAGE DIMENSIONS
in millimeters (inches)



1. EMITTER EIAJ : SC-43B
2. BASE JEDEC : TO-92
3. COLLECTOR IEC : PA33

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
t_{on}	Turn-on Time			35	ns	See Test Circuit.
t_{off}	Turn off Time			255	ns	See Test Circuit.
t_{stg}	Storage Time			225	ns	See Test Circuit.
f_T	Gain Bandwidth Product	150	400		MHz	$V_{CE} = -10\text{ V}, I_E = 20\text{ mA}$
C_{ob}	Output Capacitance		5.0	8.0	pF	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$
h_{FE1}^*	DC Current Gain	50	140	300	—	$V_{CE} = -2.0\text{ V}, I_C = -150\text{ mA}$
h_{FE2}^*	DC Current Gain	20	50		—	$V_{CE} = -2.0\text{ V}, I_C = -500\text{ mA}$
$V_{CE(sat)}^*$	Collector Saturation Voltage		−0.45	−0.75	V	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$
$V_{BE(sat)}^*$	Base Saturation Voltage		−1.0	−1.3	V	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$
I_{CBO}	Collector Cutoff Current			−0.1	μA	$V_{CB} = -40\text{ V}, I_E = 0$
I_{EBO}	Emitter Cutoff Current			−0.1	μA	$V_{EB} = -4.0\text{ V}, I_C = 0$

*Pulsed PW $\leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$