

**isc Silicon NPN Power Transistor**

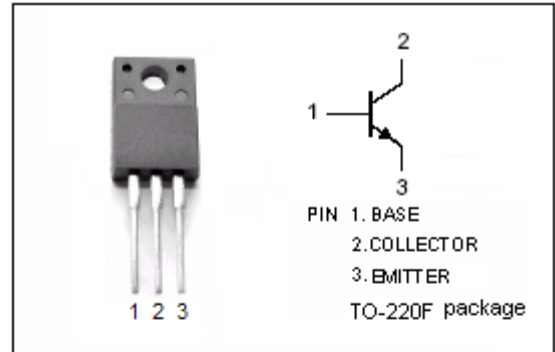
**2SC5993**

**DESCRIPTION**

- Good Linearity of  $h_{FE}$
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 180V(\text{Min})$
- Complement to Type 2SA2140

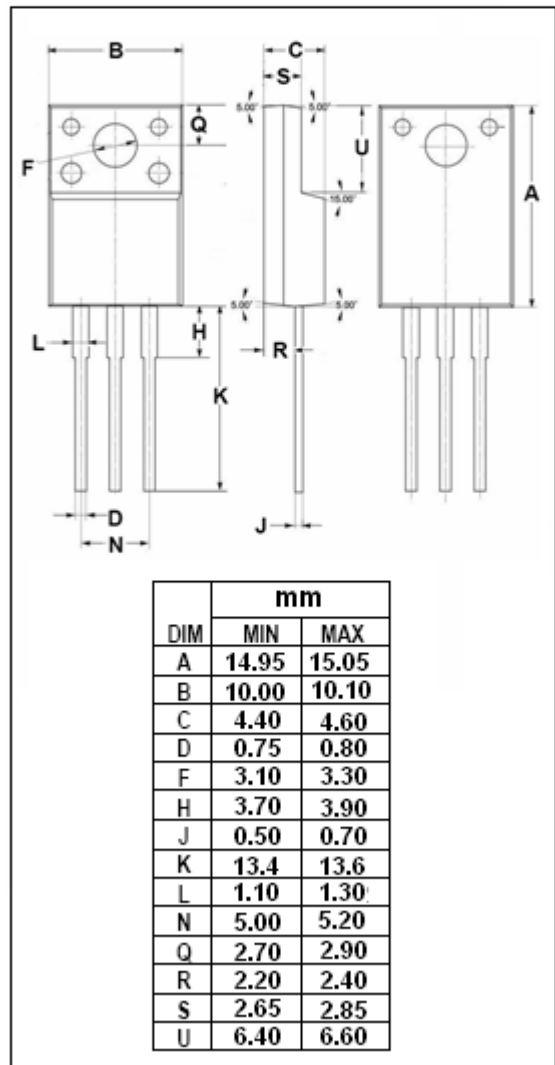
**APPLICATIONS**

- Power amplification
- For TV VM circuit



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	180	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	1.5	A
$I_{CM}$	Collector Current-Peak	3.0	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2.0	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	20	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistor****2SC5993****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_B=0$	180			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			0.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=180\text{V}; I_E=0$			100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			100	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=0.1\text{A}; V_{CE}=5\text{V}$	60		240	
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}; f=10\text{MHz}$		130		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		10		pF

Switching Time, Resistance Loaded

$t_{on}$	Turn-on Time	$I_C=0.4\text{A}, I_{B1}=-I_{B2}=0.04\text{A}; V_{CC}=100\text{V}$		0.1		$\mu\text{s}$
$t_{stg}$	Storage Time			0.5		$\mu\text{s}$
$t_f$	Fall Time			0.1		$\mu\text{s}$

◆  **$h_{FE}$  Classifications**

Q	P
60-140	120-240