

**Silicon NPN Power Transistor**

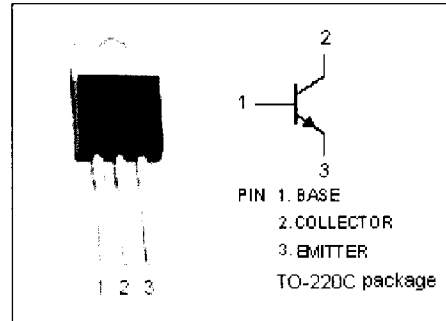
**2SC3254**

**DESCRIPTION**

- Low Collector Saturation Voltage
- Good Linearity of  $h_{FE}$
- High Switching Speed
- Complement to Type 2SA1290

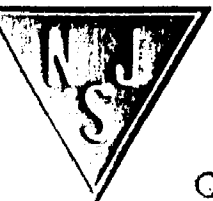
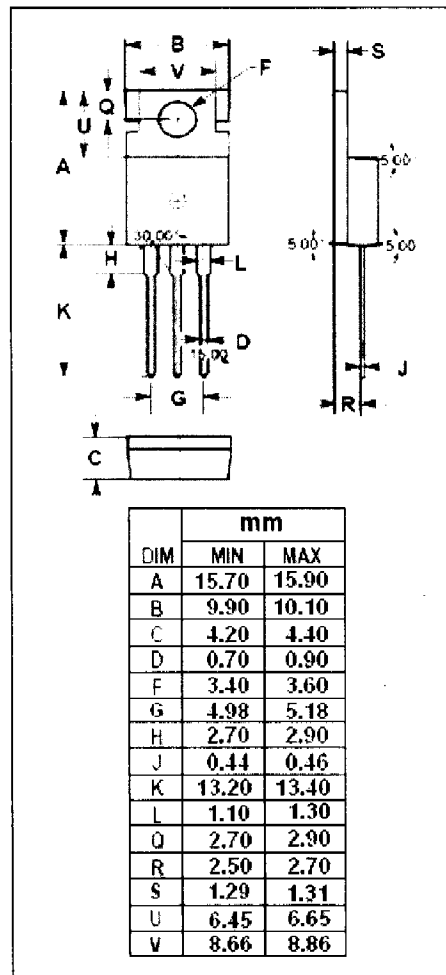
**APPLICATIONS**

- Various inductance lamp drivers for electrical equipment
- Inverters, converters
- Power amplifier
- Switching regulator, driver



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	7	A
$I_{CM}$	Collector Current-Pulse	10	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	35	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55-150	$^\circ\text{C}$



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# 2SC3254

## 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	$I_C = 1\text{mA}; R_{BE} = \infty$	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 1\text{mA}; I_E = 0$	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}; I_C = 0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 3.5\text{A}; I_B = 0.175\text{A}$			0.4	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = 40\text{V}; I_E = 0$			100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = 4\text{V}; I_C = 0$			100	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C = 1\text{A}; V_{CE} = 2\text{V}$	70		280	
$f_T$	Current-Gain—Bandwidth Product	$I_C = 1\text{A}; V_{CE} = 5\text{V}$		100		MHz

### Switching times

$t_{on}$	Turn-on Time	$I_C = 3\text{A}; I_{B1} = -I_{B2} = 0.15\text{A}; R_L = 6.67\ \Omega; V_{CC} = 20\text{V}$		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	R	S
70-140	100-200	140-280