

# isc Silicon NPN Power Transistors

## TIP54

### DESCRIPTION

- DC Current Gain  $-h_{FE} = 30 \sim 150 @ I_C = 0.3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 400V(Min)$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

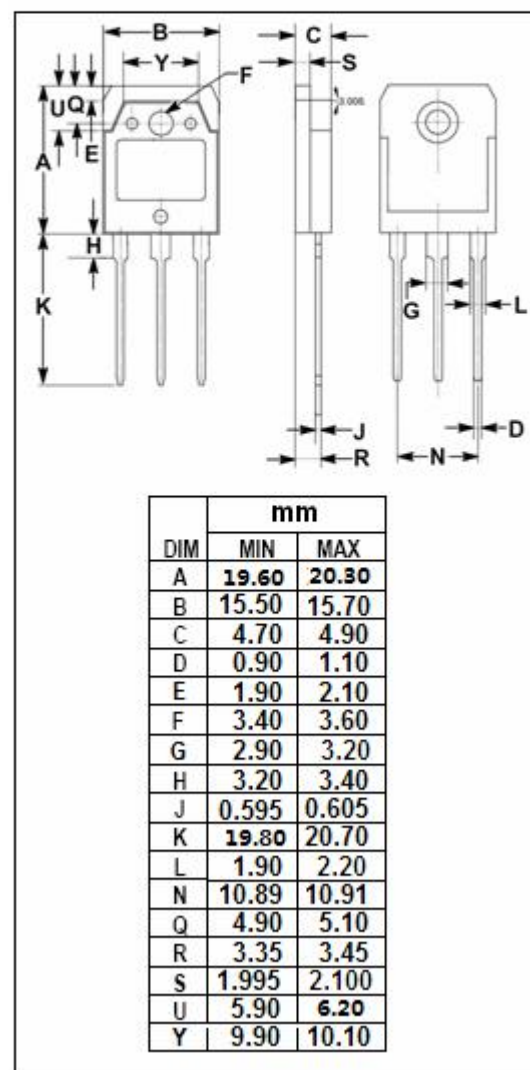
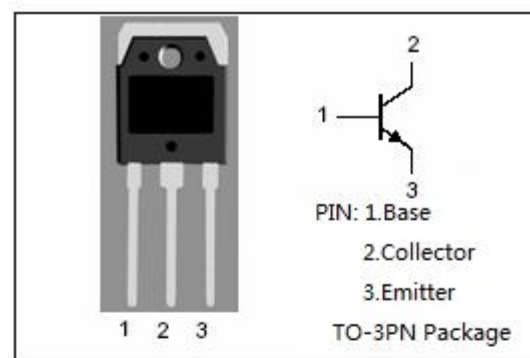
- Designed for line operated audio output amplifier, and switching power supply drivers applications.

### ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	3.0	A
$I_{CM}$	Collector Current-Peak	5.0	A
$I_B$	Base Current	0.6	A
$P_D$	Collector Power Dissipation $T_c = 25^\circ C$	100	W
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ C$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	400		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=3\text{A}; V_{CE}=10\text{V}$		1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=500\text{V}; I_E=0$		1.0	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=300\text{V}; I_B=0$		1.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		1.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=0.3\text{A}; V_{CE}=10\text{V}$	30	150	
$h_{FE-2}$	DC Current Gain	$I_C=3\text{A}; V_{CE}=10\text{V}$	10		
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}$	2.5		MHz

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