

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistors

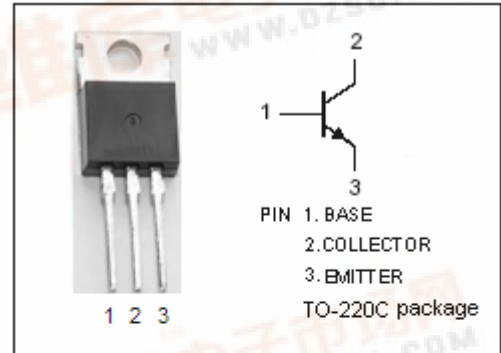
TIP48

DESCRIPTION

- DC Current Gain  $-h_{FE} = 30\sim 150 @ I_C = 0.3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 300V(\text{Min})$

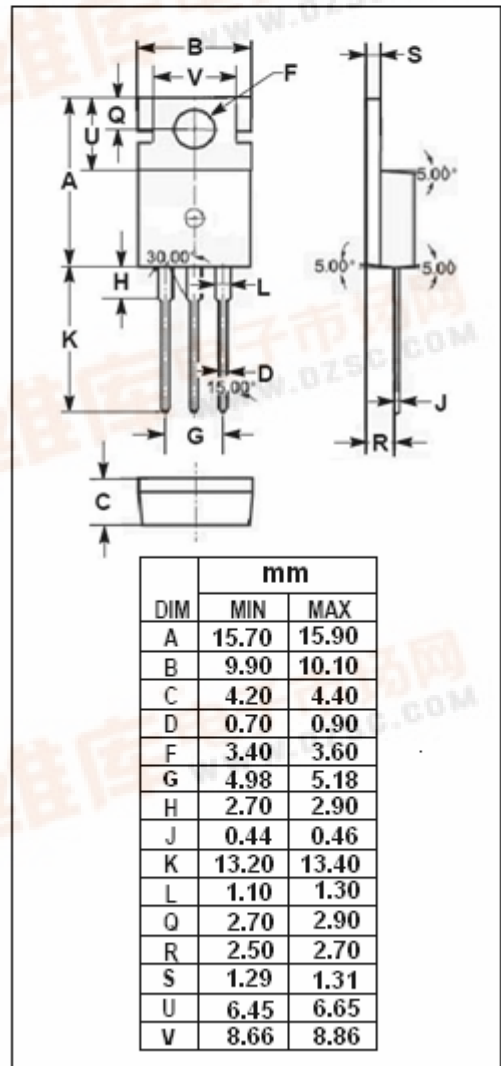
APPLICATIONS

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



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	400	V
$V_{CEO}$	Collector-Emitter Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	1.0	A
$I_{CM}$	Collector Current-Peak	2.0	A
$I_B$	Base Current	0.6	A
$P_D$	Collector Power Dissipation $T_C=25^\circ\text{C}$	40	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	2	
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.125	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$



**isc Silicon NPN Power Transistors****TIP48****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 30\text{mA}; I_B= 0$	300		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 1\text{A}; I_B= 0.2\text{A}$		1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 1\text{A}; V_{CE}= 10\text{V}$		1.5	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}= 400\text{V}; V_{BE}= 0$		1.0	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}= 200\text{V}; I_B= 0$		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	$I_C= 1\text{A}; V_{CE}= 10\text{V}$	10		
$f_T$	Current-Gain—Bandwidth Product	$I_C= 0.1\text{A}; V_{CE}= 10\text{V}$	10		MHz