

**DESCRIPTION**

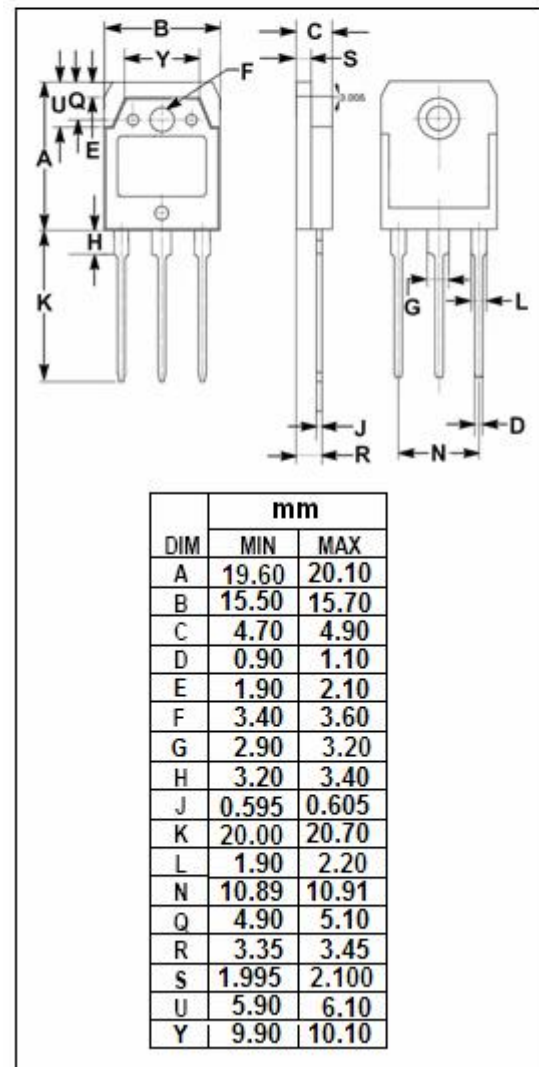
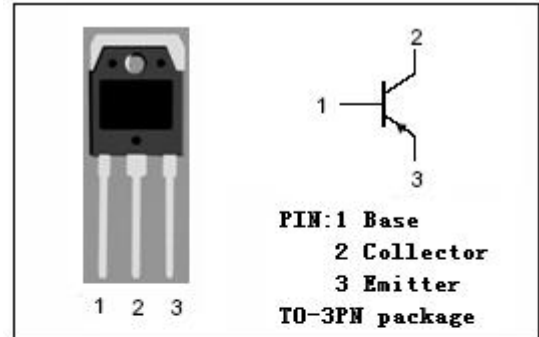
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -140V(\text{Min})$
- Good Linearity of  $h_{FE}$
- High Current Capability
- Wide Area of Safe Operation
- Complement to Type 2SD1047

**APPLICATIONS**

- Recommend for 60W audio frequency amplifier output stage applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-140	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current-Continuous	-12	A
$I_{CP}$	Collector Current-Pulse	-15	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	100	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-40~150	$^\circ\text{C}$



**ELECTRICAL CHARACTERISTICS**

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -30mA ; R <sub>BE</sub> =∞	-140			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -5mA; I <sub>E</sub> = 0	-160			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -5mA; I <sub>C</sub> = 0	-6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -5.0A; I <sub>B</sub> = -0.5A			-2.5	V
V <sub>BE(on)</sub>	Base -Emitter On Voltage	I <sub>C</sub> = -1A ; V <sub>CE</sub> = -5V			-1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -80V ; I <sub>E</sub> =0			-100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -4V; I <sub>C</sub> =0			-100	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -1A ; V <sub>CE</sub> = -5V	60		200	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -6A ; V <sub>CE</sub> = -5V	20			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> = -10V; f <sub>test</sub> = 1.0MHz		300		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> =-1A ; V <sub>CE</sub> = -5V		15		MHz

Switching times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = -1A ,R <sub>L</sub> = 20 Ω , I <sub>B1</sub> = -I <sub>B2</sub> = -0.1A,V <sub>CC</sub> =-20V		0.25		μ s
t <sub>stg</sub>	Storage Time			1.61		μ s
t <sub>f</sub>	Fall Time			0.53		μ s

◆ **h<sub>FE-1</sub> Classifications**

D	E
60-120	100-200