

**DESCRIPTION**

- With TO-247 package
- Complement to type TIP2955
- 90 W at 25°C case temperature
- 15 A continuous collector current

**APPLICATIONS**

- Designed for general-purpose switching and amplifier applications.

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector; connected to mounting base
3	Emitter

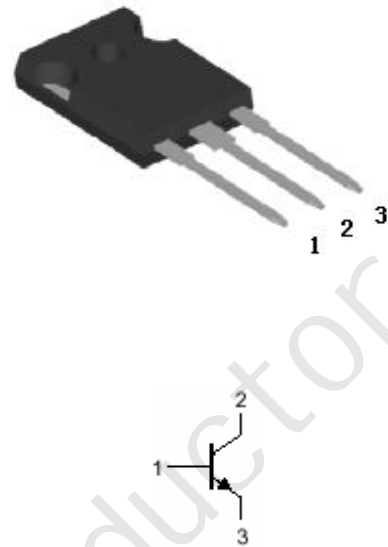


Fig.1 simplified outline (TO-247) and symbol

**Absolute maximum ratings(Ta= )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	100	V
$V_{CEO}$	Collector-emitter voltage	Open base	60	V
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		15	A
$I_B$	Base current		7	A
$P_C$	Collector power dissipation	$T_C=25$	90	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-65~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.39	/W

**CHARACTERISTICS**
**T<sub>j</sub>=25** unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =30mA ; I <sub>B</sub> =0	60			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A; I <sub>B</sub> =0.4A			1.1	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A ; I <sub>B</sub> =3.3A			3.0	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =4A ; V <sub>CE</sub> =4V			1.5	V
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =30V; I <sub>B</sub> =0			0.7	mA
I <sub>CER</sub>	Collector cut-off current	V <sub>CE</sub> =70Vdc; R <sub>BE</sub> =100Ohm			1.0	mA
I <sub>CEV</sub>	Collector cut-off current	V <sub>CE</sub> =100Vdc, V <sub>BE(off)</sub> =1.5Vdc			5.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			5.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =4A ; V <sub>CE</sub> =4V	20		70	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =10A ; V <sub>CE</sub> =4V	5.0			
I <sub>s/b</sub>	Second breakdown collector current With base forward biased	V <sub>CE</sub> =30Vdc, t=1.0s, Nonrepetitive	3.0			A
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V	2.5			MHz

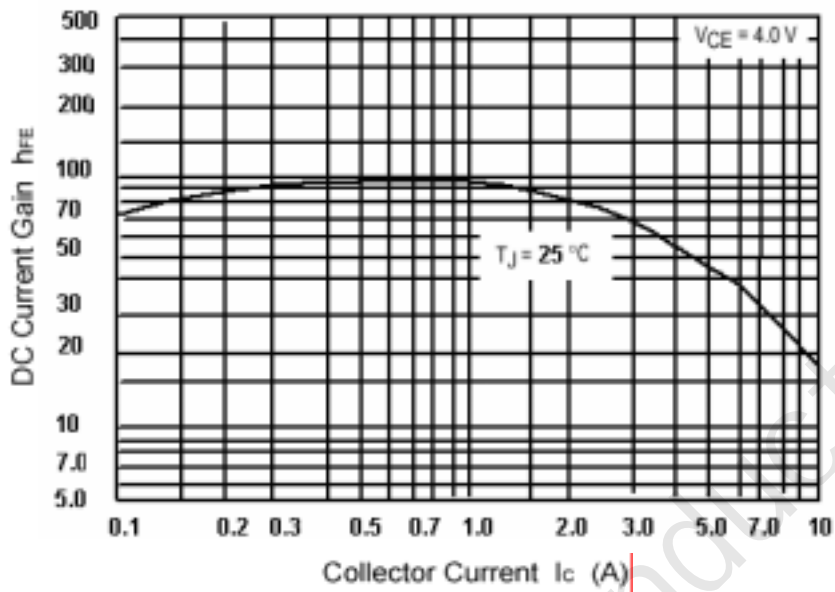


Fig.3 DC current Gain

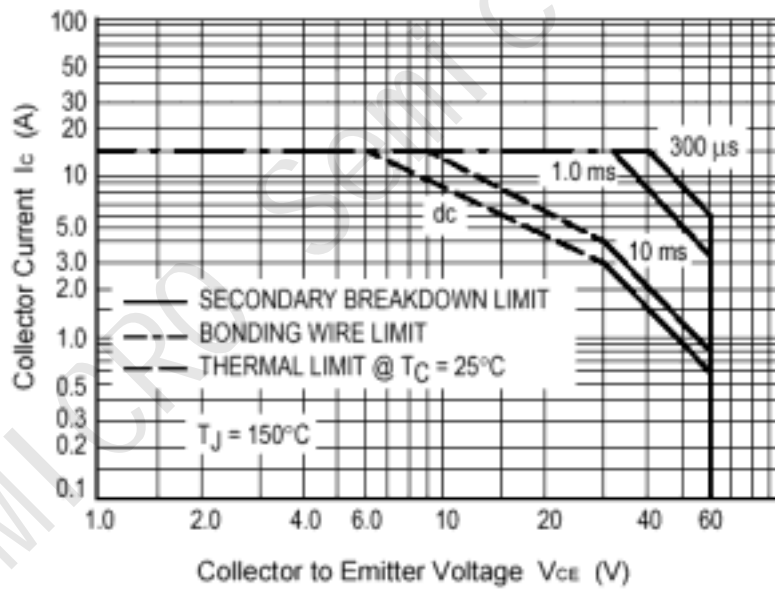


Fig.4 Safe Operating Area

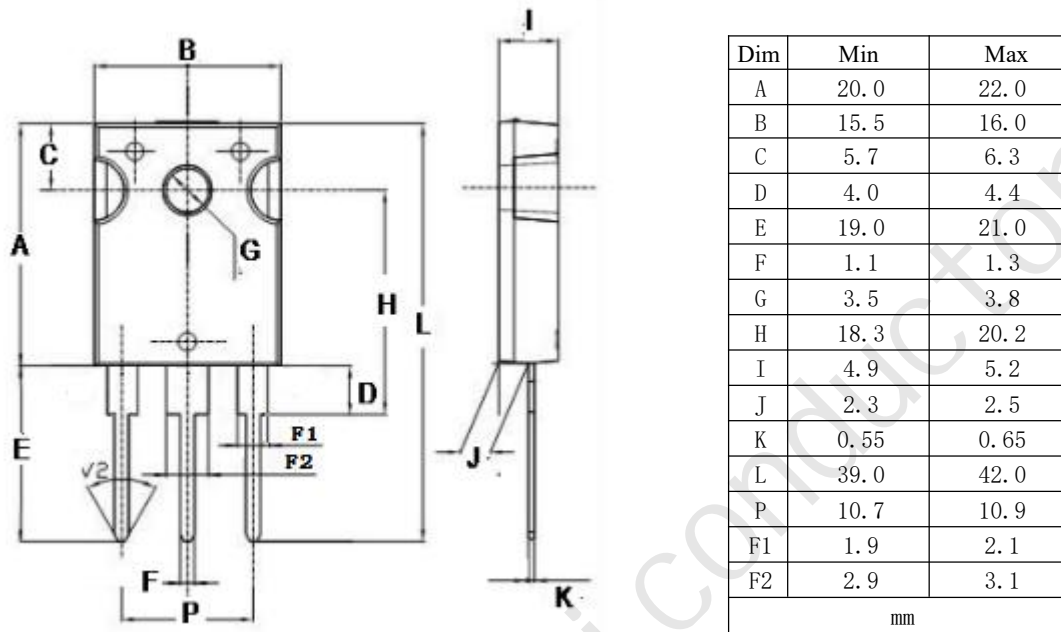
**PACKAGE OUTLINE**


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1\text{mm}$ )