

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SC5048**

**DESCRIPTION**

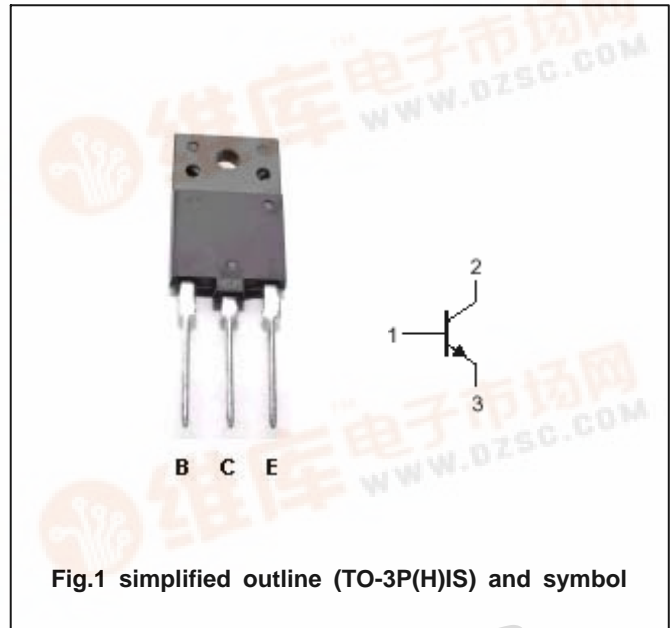
- With TO-3P(H)IS package
- High speed
- High voltage
- Low saturation voltage

**APPLICATIONS**

- Horizontal deflection output for high resolution display,colorTV
- High speed switching applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



**Absolute maximum ratings(Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	600	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		12	A
I <sub>CM</sub>	Collector current-Peak		24	A
I <sub>B</sub>	Base current		6	A
P <sub>C</sub>	Total power dissipation	T <sub>C</sub> =25	50	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =10mA ; I <sub>B</sub> =0	600			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A; I <sub>B</sub> =2A			3	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =8A; I <sub>B</sub> =2A		1.0	1.4	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =1500V; I <sub>E</sub> =0			1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	10		30	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =8A ; V <sub>CE</sub> =5V	4		8	
C <sub>ob</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V, f=1MHz		160		pF
f <sub>T</sub>	Transition frequency	I <sub>E</sub> =0.1A ; V <sub>CE</sub> =10V		1.7		MHz

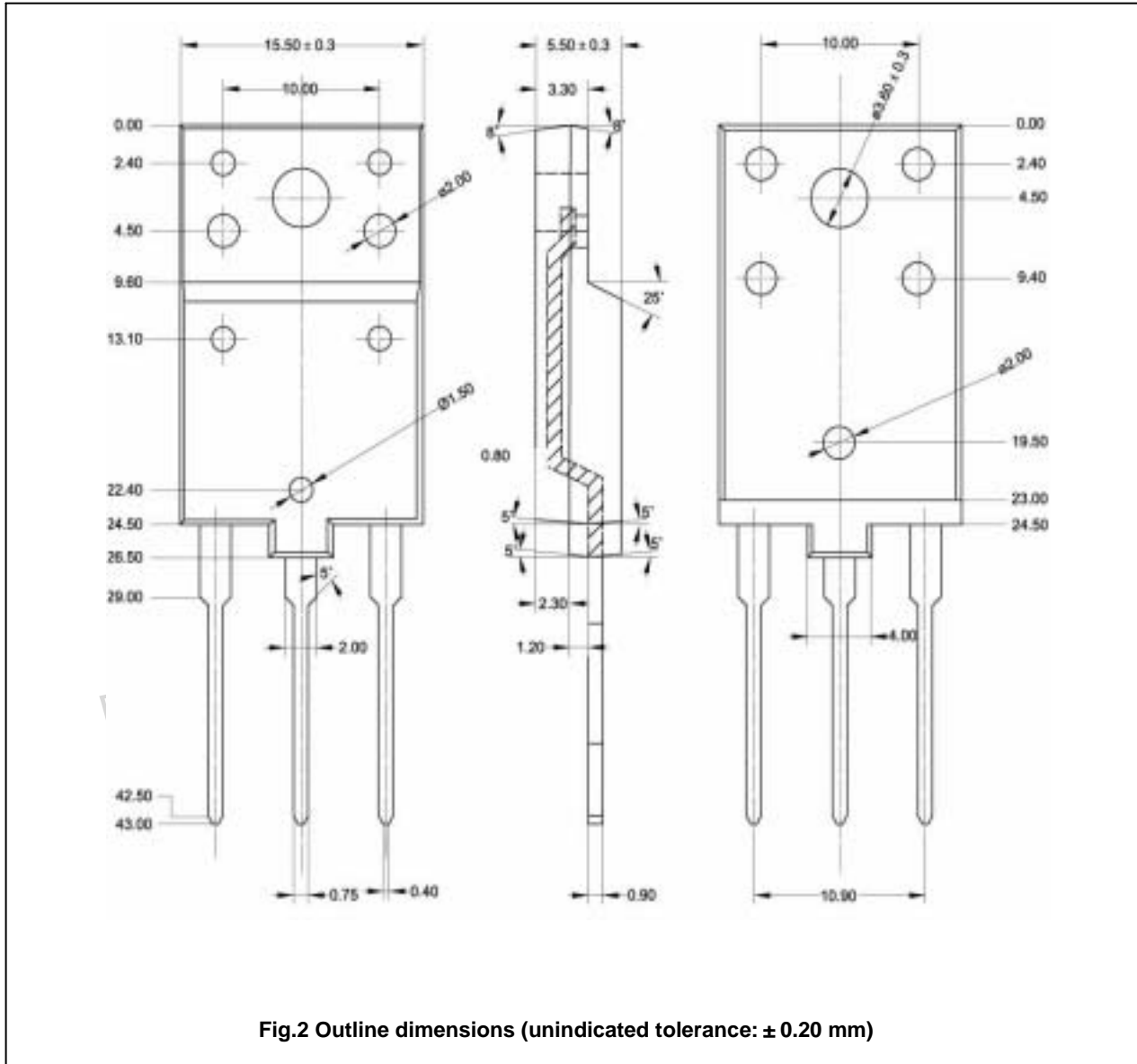
Switching times (inductive load)

t <sub>s</sub>	Storage time	I <sub>CP</sub> =6A; I <sub>B1(end)</sub> = 1.15A f <sub>H</sub> =64kHz		2.5	4	μs
t <sub>f</sub>	Fall time			0.15	0.3	μs

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PACKAGE OUTLINE



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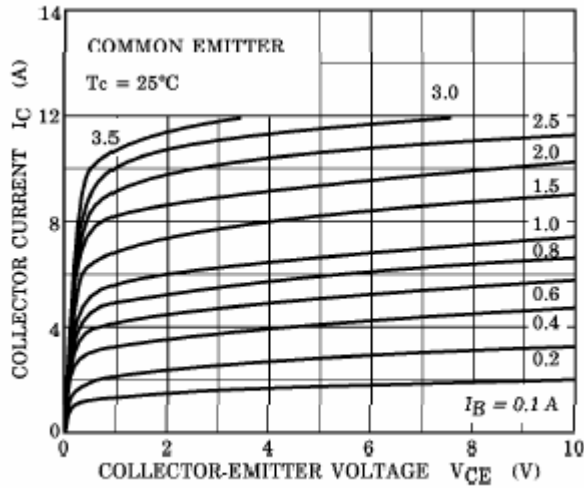


Fig.3 Static Characteristic

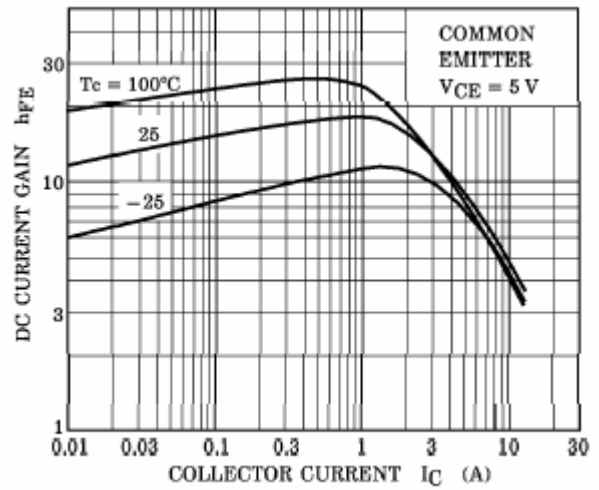


Fig.4 DC current Gain

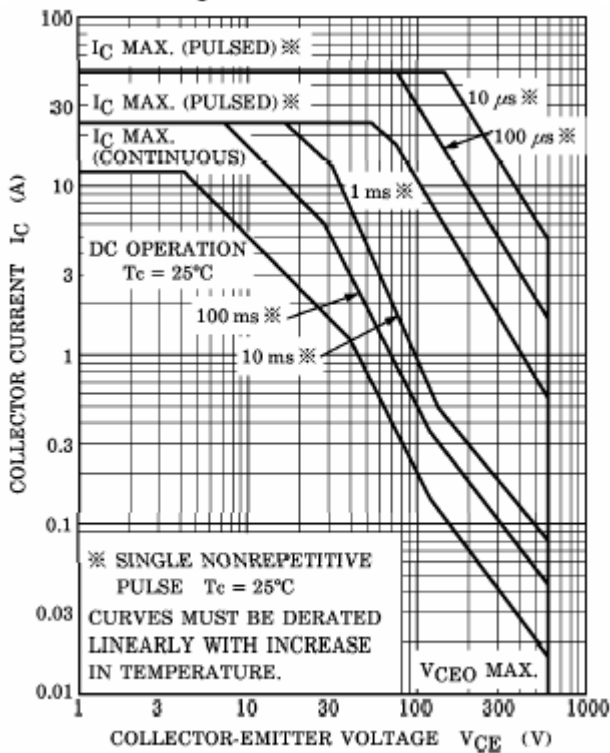


Fig.5 Safe Operating Area

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