

# Silicon NPN Power Transistors

# 2SC2335F

## DESCRIPTION

- With TO-220F package
- Collector-emitter sustaining voltage  
 $V_{CE(sus)}=400V(\text{Min})$
- Collector-emitter saturation voltage  
 $V_{CE(sat)}=1.0V(\text{Max.})@I_C=3.0A, I_B=0.6A$
- Switching time- $t_f=1.0\mu s(\text{Max.})@I_C=3.0A$

## APPLICATIONS

- Designed for use in high-voltage ,high-speed ,power switching in inductive circuit, particularly suited for 115 and 220V switch-mode applications such as switching regulator's ,inverters,,DC-DC and converter

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

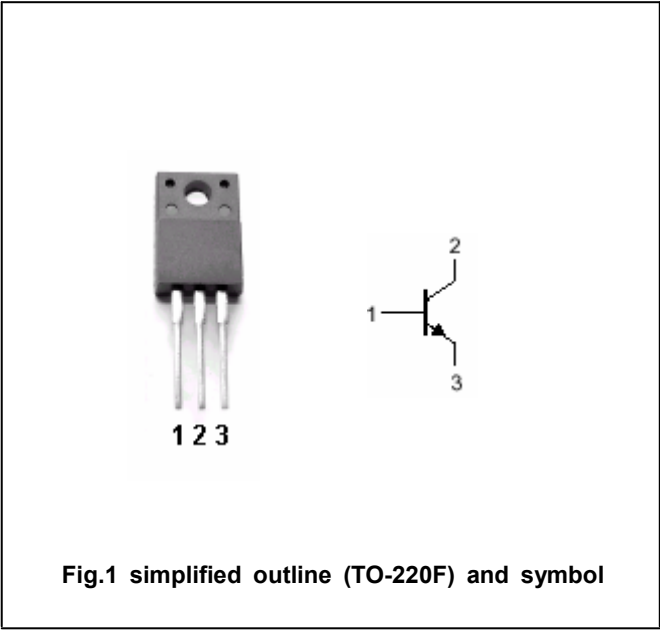


Fig.1 simplified outline (TO-220F) and symbol

## Absolute maximum ratings( $T_a=25^{\circ}C$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	500	V
$V_{CEO}$	Collector-emitter voltage	Open base	400	V
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		7	A
$I_{CM}$	Collector current-peak		15	A
$I_B$	Base current		3.5	A
$P_D$	Total power dissipation	$T_C=25^{\circ}C$	40	W
$T_j$	Junction temperature		150	$^{\circ}C$
$T_{stg}$	Storage temperature		-50~150	$^{\circ}C$

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## CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(SUS)CEO}$	Collector-emitter sustaining voltage	$I_C=3.0A$ ; $I_{B1}=0.6A$ , $L=1mH$	400			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=3A$ ; $I_B=0.6A$			1.0	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=3A$ ; $I_B=0.6A$			1.2	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=400V$ ; $I_E=0$			10	$\mu A$
$I_{CEX}$	Collector cut-off current	$V_{CE}=400V$ ; $V_{BE(off)}=-1.5V$ $T_C=125^\circ C$			10 1.0	$\mu A$ mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=5V$ ; $I_C=0$			10	$\mu A$
$h_{FE-1}$	DC current gain	$I_C=0.1A$ ; $V_{CE}=5V$	20			
$h_{FE-2}$	DC current gain	$I_C=1.0A$ ; $V_{CE}=5V$	20		80	
$h_{FE-3}$	DC current gain	$I_C=3.0A$ ; $V_{CE}=5V$	10			

## Switching times

$t_{on}$	Turn-on time	$V_{CC}=150V$ ; $I_C=3.0A$ ; $I_{B1}=-I_{B2}=600mA$ ; $R_L=50\Omega$			1.0	$\mu s$
$t_{stg}$	Storage time				2.5	$\mu s$
$t_f$	Fall time				1.0	$\mu s$

◆  $h_{FE-2}$  Classifications

R	O	Y
20-40	30-60	40-80

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PACKAGE OUTLINE

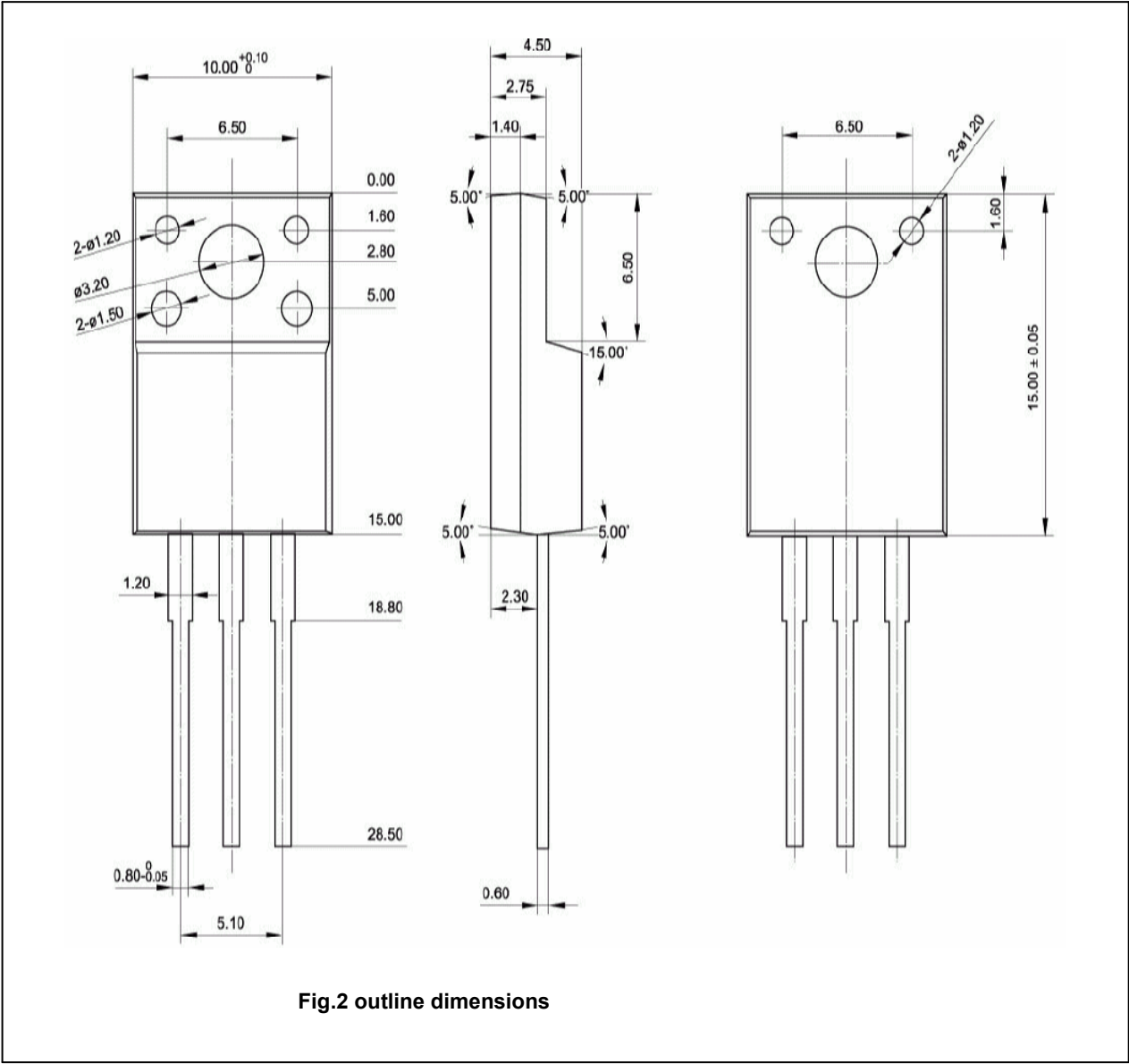


Fig.2 outline dimensions