

## **KSC2335F**

# High Speed, High Voltage Switching

Industrial Use



# **NPN Epitaxial Silicon Transistor**

1.Base 2.Collector 3.Emitter

## Absolute Maximum Ratings $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	500	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current (DC)	7	Α
I <sub>CP</sub>	*Collector Current (Pulse)	15	Α
I <sub>B</sub>	Base Current	3.5	Α
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	40	W
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	- 55 ~ 150	°C

<sup>\*</sup> PW≤300μs, Duty Cycle≤10%

## **Electrical Characteristics** $T_C=25$ °C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
V <sub>CEO</sub> (sus)	Collector-Emitter Sustaining Voltage	I <sub>C</sub> =3A, I <sub>B1</sub> =0.6A, L = 1mH	400		V
V <sub>CEX</sub> (sus)1	Collector-Emitter Sustaining Voltage	$I_C=3A,I_{B1}=-I_{B2}=0.6A$ $V_{BE}(off)=-5V, L=180\mu H, Clamped$	450		V
V <sub>CEX</sub> (sus)2	Collector-Emitter Sustaining Voltage	I <sub>C</sub> =6A, I <sub>B1</sub> =2A, I <sub>B2</sub> =-0.6A V <sub>BE</sub> (off)=-5V, L = 180μH, Clamped	400		V
I <sub>CBO</sub>	Collector Cut-off Current	$V_{CE}=400V, I_{E}=0$		10	μΑ
I <sub>CER</sub>	Collector Cut-off Current	$V_{CE}$ =400V, $R_{BE}$ = 51 $\Omega$ @ $T_{C}$ = 125°C		1	mA
I <sub>CEX1</sub>	Collector Cut-off Current	$V_{CE}$ =400V, $V_{BE}$ (off) = -1.5V		10	μΑ
I <sub>CEX2</sub>	Collector Cut-off Current	$V_{CE}$ =400V, $V_{BE}$ (off) = -1.5V @ $T_a$ =125°C		1	mA
I <sub>EBO</sub>	Emitter Cut-off Current	$V_{EB} = 5V, I_C = 0$		10	μΑ
h <sub>FE1</sub> h <sub>FE2</sub> h <sub>FE3</sub>	* DC Current Gain	$V_{CE}=5V, I_{C}=0.1A$ $V_{CE}=5V, I_{C}=1A$ $V_{CE}=5V, I_{C}=3A$	20 20 10	80	
V <sub>CE</sub> (sat)	* Collector-Emitter Saturation Voltage	I <sub>C</sub> =3A, I <sub>B</sub> =0.6A		1	V
V <sub>BE</sub> (sat)	* Base-Emitter Saturation Voltage	I <sub>C</sub> =3A, I <sub>B</sub> =0.6A		1.2	V
t <sub>ON</sub>	Turn ON Time	V <sub>CC</sub> =150V, I <sub>C</sub> =3A		1	μs
t <sub>STG</sub>	Storage Time	I <sub>B1</sub> =-I <sub>B2</sub> =0.6A		2.5	μs
t <sub>F</sub>	Fall Time	$R_L=50\Omega$		1	μs

<sup>\*</sup> Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

## **h**<sub>FE</sub> Classification

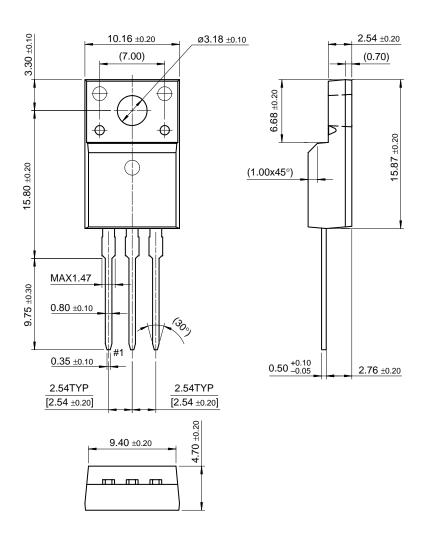
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Classification	R	0	Υ	
h <sub>FE1</sub>	20 ~ 40	30 ~ 60	40 ~ 80	

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# **Package Demensions**

www.DataSheet4U.com

# TO-220F



Dimensions in Millimeters

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