

isc Silicon NPN Power Transistors

KSC5021F

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 500V(\text{Min})$
- Collector Current- $I_C = 5A(\text{Max.})$
- Low Collector Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

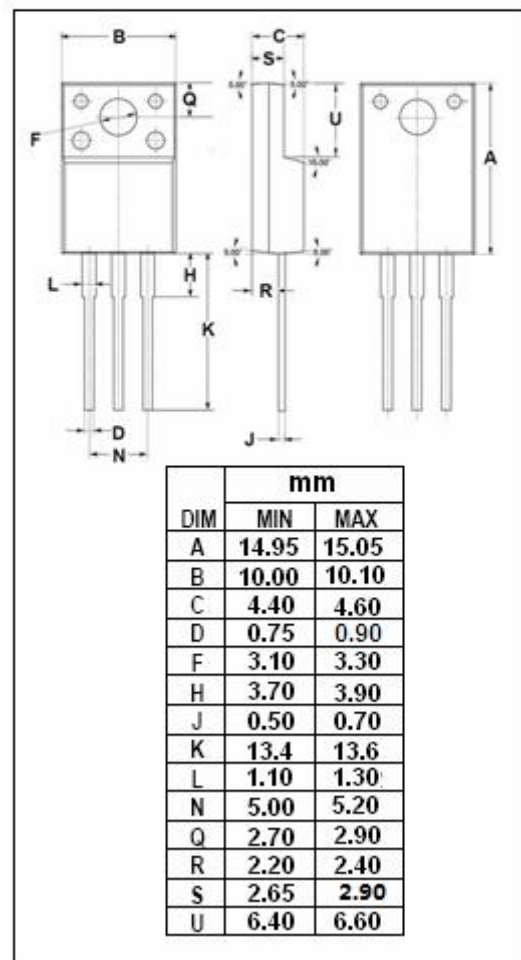
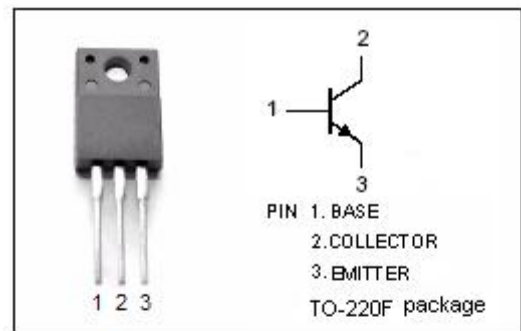
- Designed for use in drivers such as DC/DC converters and actuators.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	500	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	2	A
P_T	Total Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.125	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=5\text{mA}; I_B=0$	500			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.6\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	At rated Voltage			10	μA
I_{CEO}	Collector Cutoff Current	At rated Voltage			10	μA
I_{EBO}	Emitter Cutoff Current	At rated Voltage			10	μA
h_{FE-1}	DC Current Gain	$I_C=0.6\text{A}; V_{CE}=5\text{V}$	15		50	
h_{FE-2}	DC Current Gain	$I_C=3\text{A}; V_{CE}=5\text{V}$	8			
f_T	Current-Gain—Bandwidth Product	$I_C=0.6\text{A}; V_{CE}=10\text{V}$		15		MHz

◆ h_{FE-1} Classifications

R	O	Y
15-30	20-40	30-50

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