

isc Silicon NPN Power Transistor**2SC5439****DESCRIPTION**

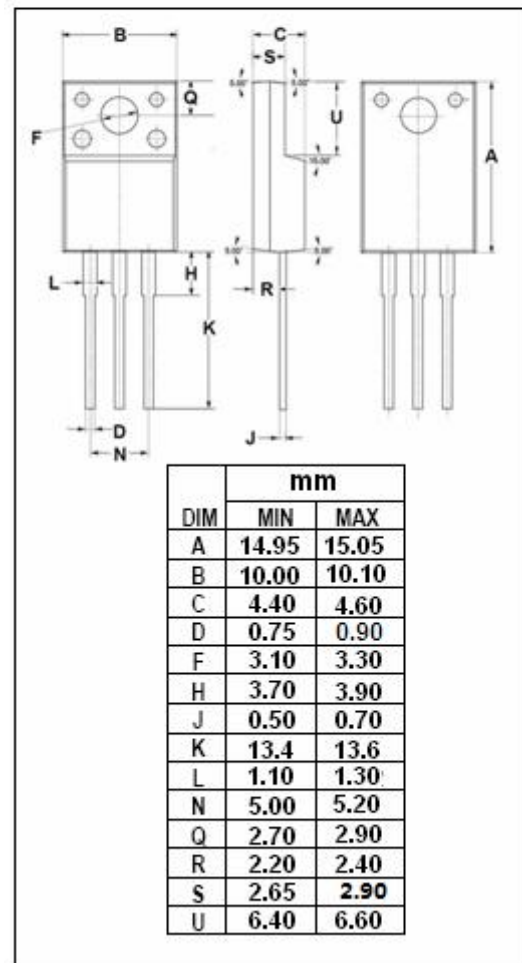
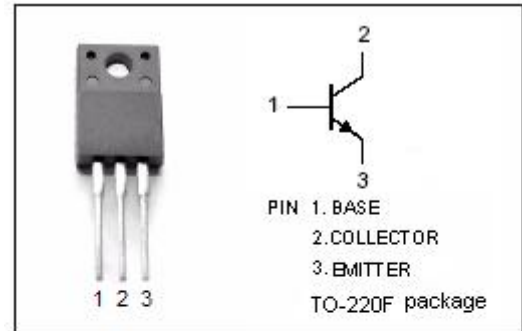
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 450V(\text{Min})$
- High Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching regulator applications.
- High voltage switching applications.
- DC-DC converter applications.
- Inverter lighting applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1000	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	16	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	30	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 1\text{mA}; I_E = 0$	1000			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}; I_B = 0$	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 3.2\text{A}; I_B = 0.64\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 3.2\text{A}; I_B = 0.64\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 1000\text{V}; I_E = 0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 7\text{V}; I_C = 0$			10	μA
h_{FE-1}	DC Current Gain	$I_C = 1\text{mA}; V_{CE} = 5\text{V}$	10			
h_{FE-2}	DC Current Gain	$I_C = 1\text{A}; V_{CE} = 5\text{V}$	14		34	

Switching Times

t_{on}	Turn-On Time	$I_{B1} = 0.64\text{A}; I_{B2} = -1.28\text{A};$ $V_{CC} \approx 200\text{V}; R_L = 62.5\ \Omega$		0.2		μs
t_{stg}	Storage Time			2.0	3.5	μs
t_f	Fall Time			0.15		μs

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