

isc Silicon NPN Power Transistors

BUV27F/AF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 120V(\text{Min})$ - BUV27F
150V(Min)- BUV27AF
- High Switching Speed

APPLICATIONS

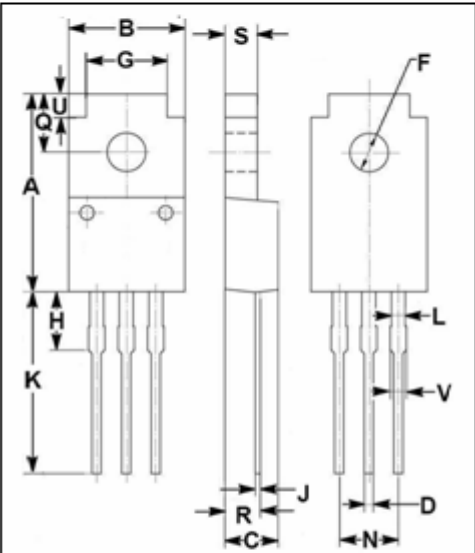
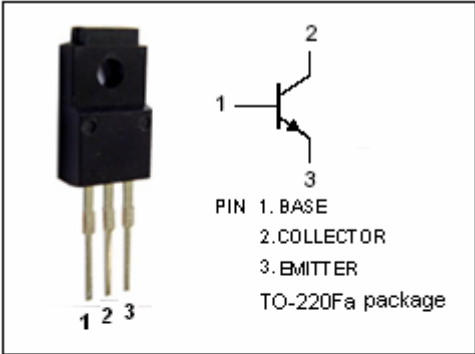
- Designed for fast switching applications such as high frequency and efficiency converters, switching regulators and motor control.

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

SYMBOL	PARAMETER		VALUE	UNIT
V_{CES}	Collector-Emitter Voltage $V_{BE}=0$	BUV27F	240	V
		BUV27AF	300	
V_{CEO}	Collector-Emitter Voltage	BUV27F	120	V
		BUV27AF	150	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		15	A
I_{CM}	Collector Current-Peak		20	A
I_B	Base Current-Continuous		4	A
I_{BM}	Base Current-Peak		6	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$		18	W
T_J	Junction Temperature		150	$^{\circ}C$
T_{stg}	Storage Temperature Range		-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	7.0	$^{\circ}C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	55	$^{\circ}C/W$



DIM	mm	
	MIN	MAX
A	16.85	17.15
B	9.90	10.10
C	4.35	4.65
D	0.75	0.80
F	3.20	3.40
G	6.90	7.10
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.95	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BUV27F	$I_C = 0.2A; I_B = 0; L = 25mH$	120			V
		BUV27AF		150			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUV27F	$I_C = 8A; I_B = 0.8A$			1.5	V
		BUV27AF	$I_C = 7A; I_B = 0.7A$			1.0	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUV27F	$I_C = 8A; I_B = 0.8A$			2.0	V
		BUV27AF	$I_C = 7A; I_B = 0.7A$			2.0	
I_{CEX}	Collector Cutoff Current		$V_{CE}=V_{CESmax}; V_{BE}=-1.5V, T_J=125^{\circ}\text{C}$			1.0	mA
I_{CES}	Collector Cutoff Current		$V_{CE}=V_{CESmax}; V_{BE}=0, T_J=125^{\circ}\text{C}$			3.0	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB} = 5V; I_C=0$			1.0	mA

Switching Times; Resistive Load

t_{on}	Turn-On Time	For BUV27F $I_C = 8A; I_{B1} = 0.8A; I_{B2} = -1.6A$		0.4	0.8	μs
t_{stg}	Storage Time			0.5	1.2	μs
t_f	Fall Time	For BUV27AF $I_C = 7A; I_{B1} = 0.7A; I_{B2} = -1.4A$		0.12	0.4	μs