

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

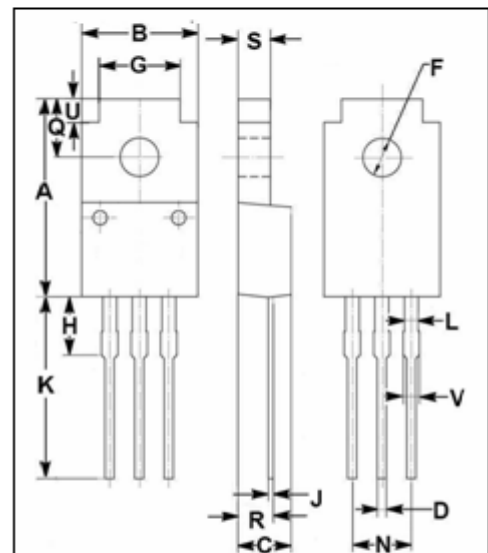
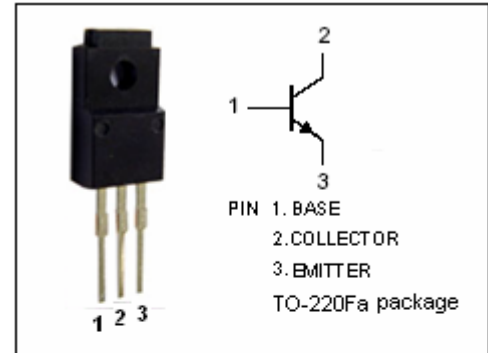
- Designed for fast switching applications such as high frequency and efficiency converters, switching regulators and motor control.

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

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 @ $T_C=25^\circ\text{C}$	18	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$	

THERMAL CHARACTERISTICS

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



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

## isc Silicon NPN Power Transistors

## BUV27F/AF

## 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	$I_C=0.2A; I_B=0; L=25mH$			V
		BUV27AF				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUV27F			1.5	V
		BUV27AF			1.0	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUV27F			2.0	V
		BUV27AF			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	$\mu\text{s}$
$t_{stg}$	Storage Time			0.5	1.2	$\mu\text{s}$
$t_f$	Fall Time	For BUV27AF $I_C=7A; I_{B1}=0.7A; I_{B2}=-1.4A$		0.12	0.4	$\mu\text{s}$