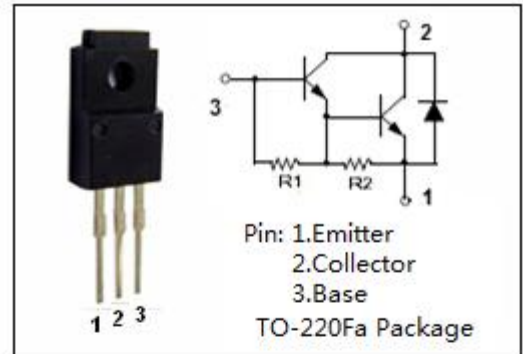


isc Silicon NPN Darlington Power Transistor
BD647F
DESCRIPTION

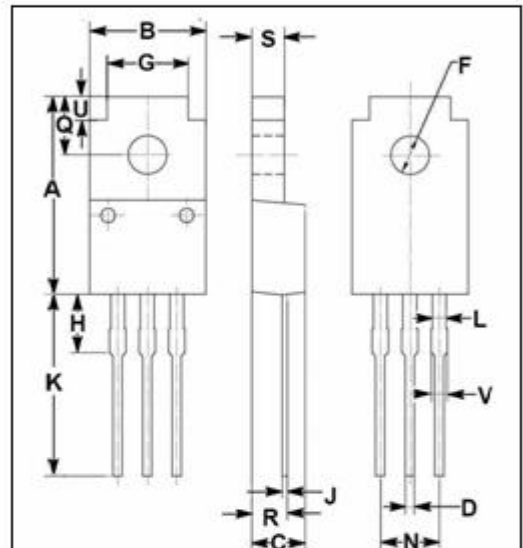
- High DC Current Gain
- Low Saturation Voltage
- Complement to Type BD648F
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use as complementary AF push-pull output stage applications


ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	100	V
V _{CEO}	Collector-Emitter Voltage	80	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current-Continuous	8	A
I _{CP}	Collector Current-Peak	12	A
I _B	Base Current-Continuous	0.15	A
P _C	Collector Power Dissipation @ T _a =25°C	20	W
	Collector Power Dissipation @ T _C =25°C	32	
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°C



DIM	mm	
	MIN	MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
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	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.6	°C/W
R _{th j-a}	Thermal Resistance, Junction to Ambient	6.25	°C/W

isc Silicon NPN Darlington Power Transistor**BD647F****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	80			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 12mA			2.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 50mA			2.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 50mA			3.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 3A; V _{CE} = 3V			2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0			0.1	mA
		V _{CB} = 50V; I _E = 0; T _C = 150°C			1.0	
I _{CEO}	Collector Cutoff Current	V _{CE} = 40V; I _B = 0			0.2	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			5	mA
h _{FE-1}	DC Current Gain	I _C = 0.5A; V _{CE} = 3V		1900		
h _{FE-2}	DC Current Gain	I _C = 3A; V _{CE} = 3V	750			
h _{FE-3}	DC Current Gain	I _C = 8A; V _{CE} = 3V		1800		

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