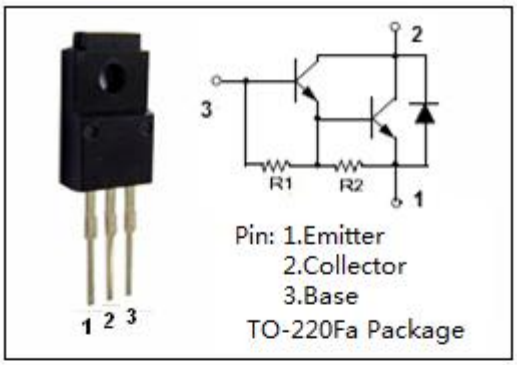
isc Silicon NPN Darlington Power Transistor — BD647F

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

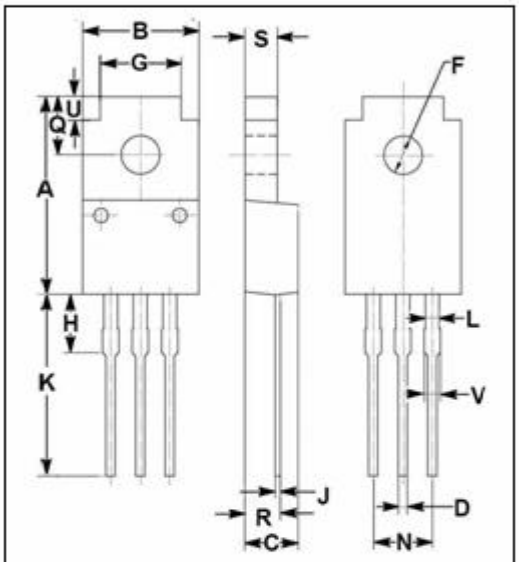
- Designed for use as complementary AF push-pull output stage applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	20	W
	Collector Power Dissipation @ T_C=25℃	32	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.6	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	6.25	℃/W



DIM	mm MIN	mm 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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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℃			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		