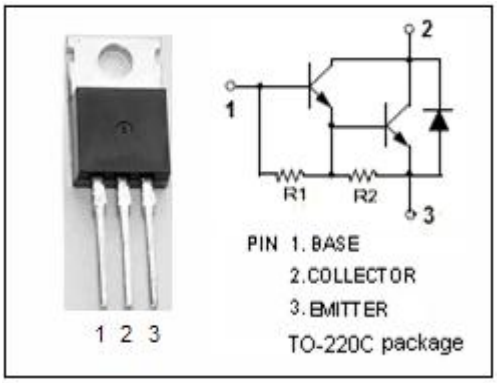
isc Silicon NPN Darlington Power Transistor — 2SD864



DESCRIPTION

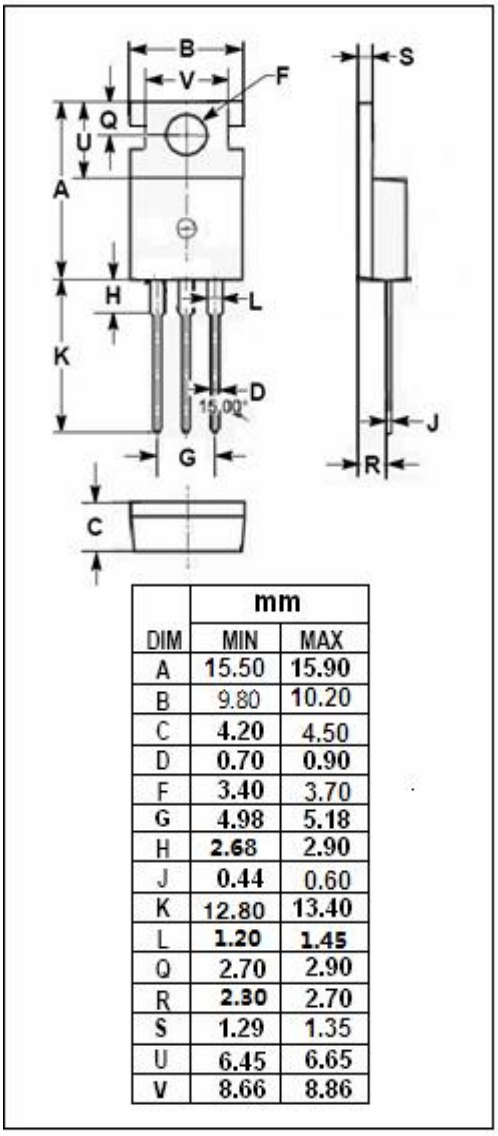
- High DC Current Gain-
  : h_{FE} = 1000(Min)@ I_C= 1.5A
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$ = 120V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = 1.5V(Max)@ I_C= 1.5A
- Complement to Type 2SB765
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Medium speed and power switching applications.

ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	6	A
P_C	Collector Power Dissipation T_C=25℃	30	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C=25mA, R_{BE}= ∞	120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 5mA , I_C= 0	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 1.5A, I_B=3mA			1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C=3A, I_B= 30mA			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 1.5A, I_B= 3mA			2.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C=3A, I_B= 30mA			3.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}=120V, I_E= 0			100	μA
I_{CEO}	Collector Cutoff Current	V_{CE}= 100V, R_{BE}= ∞			10	μA
h_{FE}	DC Current Gain	I_C= 1.5A; V_{CE}= 3V	1000		20000	
Switching times						
t_{on}	Turn-on Time	I_C= 1.5A; I_{B1}= I_{B2}= 3mA		0.5		μs
t_{stg}	Storage Time			4.5		μs
t_f	Fall Time			1.1		μs

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