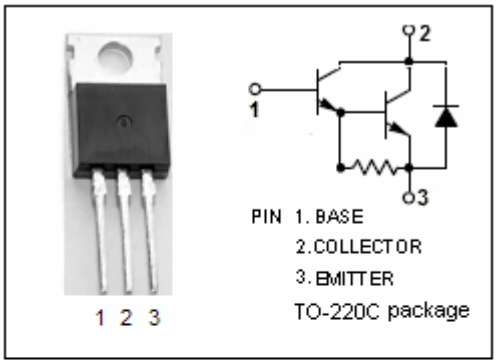
Silicon NPN Darlington Power Transistor 2SD837



DESCRIPTION

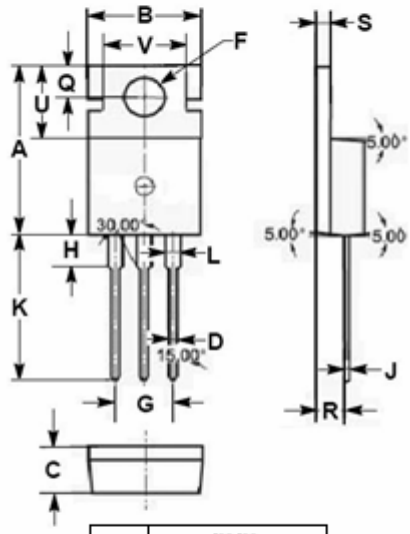
- High DC Current Gain-
  : h_{FE}= 1000(Min.)@I_C= 3A
- High Switching Speed

APPLICATIONS

- Audio power amplifiers
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_{CM}	Base Current-Peak	8	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
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= 30mA ; I_B= 0	60			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 12mA			2	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 20mA			4	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 3A ; V_{CE}= 3V			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 60V; I_E= 0			0.2	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 30V; I_B= 0			0.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C=0			2	μA
h_{FE-1}	DC Current Gain	I_C= 0.5A ; V_{CE}= 3V	1000			
h_{FE-2}	DC Current Gain	I_C= 3A ; V_{CE}= 3V	1000		10000	

Switching Times

t_{on}	Turn-On Time	I_C= 3A; I_{B1}= -I_{B2}= 12mA		0.3		μs
t_{off}	Turn-Off Time			4		μs