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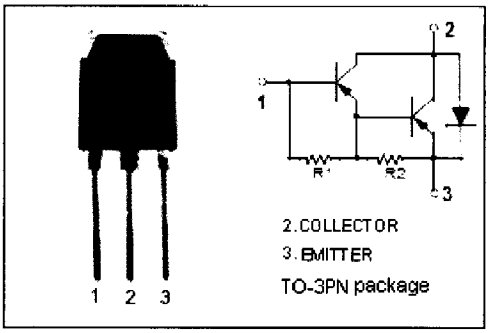
Silicon PNP Darlington Power Transistor

MJH11017

DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 400(Min)@ I_C= -10A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -150V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = -2.5V(Max)@ I_C= -10A
  = -4.0V(Max)@ I_C= -15A
- Complement to Type MJH11018



APPLICATIONS

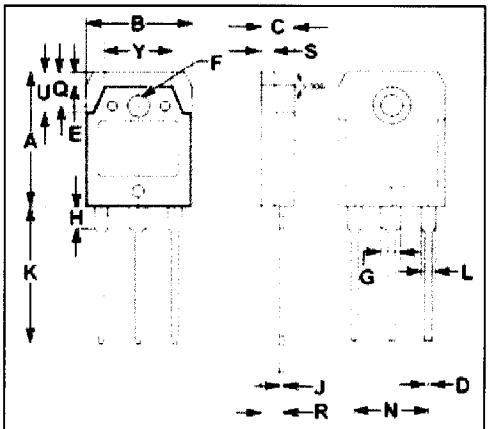
- Designed for general purpose amplifiers ,low frequency switching and motor control applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-150	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-15	A
I_{CM}	Collector Current-Peak	-30	A
I_B	Base Current- Continuous	-0.5	A
P_C	Collector Power Dissipation @T_C=25℃	150	W
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	0.83	℃/W



DIM	mm MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= -100mA, I_B= 0	-150			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= -10A ,I_B= -0.1A			-2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= -15A ,I_B= -0.15A			-4.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= -15A ,I_B= -0.15A			-3.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= -10A ; V_{CE}= -5V			-2.8	V
I_{CEV}	Collector Cutoff Current	V_{CEV}=150V;$V_{BE(off)}$=1.5V V_{CEV}=150V;$V_{BE(off)}$=1.5V;T_C=150℃			-0.5 -5.0	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= -75V, I_B=0			-1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C=0			-2	mA
h_{FE-1}	DC Current Gain	I_C= -10A ; V_{CE}= -5V	400		15000	
h_{FE-2}	DC Current Gain	I_C= -15A ; V_{CE}= -5V	100			
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= -10V,f= 0.1MHz			600	pF

Switching times

t_d	Delay Time	I_C= -10A , V_{CC}= -100V; I_B= -0.1A; $V_{BE(off)}$= -5V; Duty Cycle≤2.0%		75		ns
t_r	Rise Time			0.5		μs
t_s	Storage Time			2.7		μs
t_f	Fall Time			2.5		μs