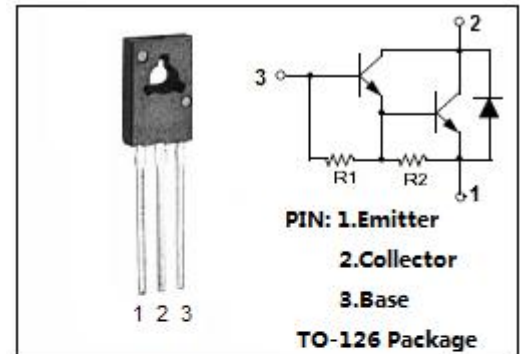


isc Silicon NPN Darlington Power Transistor
2N6039
DESCRIPTION

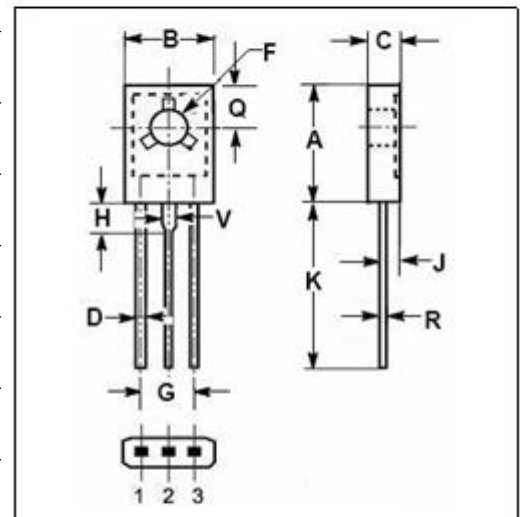
- Collector–Emitter Sustaining Voltage–
: $V_{CEO(SUS)} = 80V(\text{Min})$
- High DC Current Gain–
: $h_{FE} = 750(\text{Min})@I_C = 2A$
- Complement to Type 2N6036

APPLICATIONS

- Designed for general purpose switching and amplifier applications


ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_{CM}	Collector Current-Peak	8	A
I_B	Base Current	0.1	A
P_C	Collector Power Dissipation $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	10.70	10.95
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	15.30	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	3.12	$^\circ\text{C/W}$

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ELECTRICAL CHARACTERISTICS

 T_c =25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	80		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 2 A ; I _B = 8mA		2.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 4 A ; I _B = 40mA		3.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4 A ; I _B = 40mA		4.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 2 A ; V _{CE} = 3V		2.8	V
I _{CEX}	Collector Cutoff Current	V _{CE} = 80V; V _{BE} = -1.5V V _{CE} = 80V; V _{BE} = -1.5V; T _C = 125°C		0.1 0.5	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; I _E = 0		0.1	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 80V; I _B = 0		0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		2.0	mA
h _{FE-1}	DC Current Gain	I _C = 0.5 A ; V _{CE} = 3V	500		
h _{FE-2}	DC Current Gain	I _C = 2 A ; V _{CE} = 3V	750	25000	
h _{FE-3}	DC Current Gain	I _C = 4 A ; V _{CE} = 3V	100		

◆ h_{FE-1} Classifications

J	K	L	M
750-3500	3000-6000	5000-15000	14000-25000

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