

Silicon NPN Power Transistors

2N6037 2N6038 2N6039

DESCRIPTION

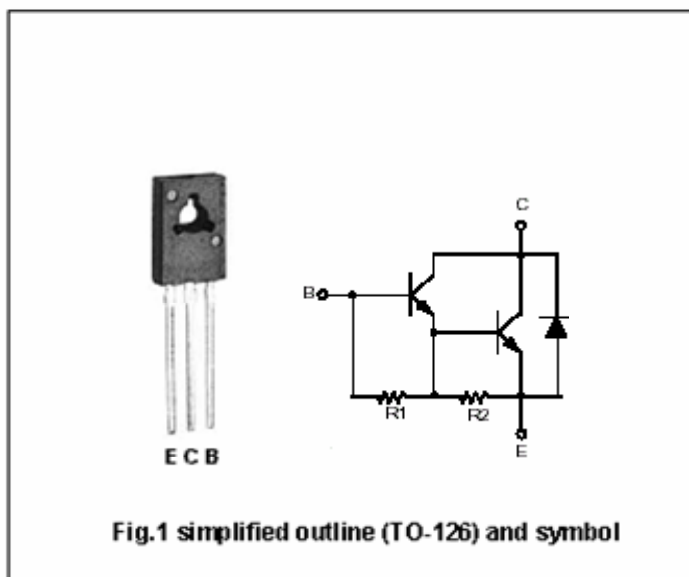
- With TO-126 package
- Complement to type 2N6034/6035/6036
- DARLINGTON
- High DC current gain

APPLICATIONS

- Designed for general-purpose amplifier and low-speed switching applications

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

Absolute maximum ratings($T_a = ^\circ\text{C}$)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6037	Open emitter	40	V
		2N6038		60	
		2N6039		80	
V_{CEO}	Collector-emitter voltage	2N6037	Open base	40	V
		2N6038		60	
		2N6039		80	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			4	A
I_{CM}	Collector current-peak			8	A
I_B	Base current			0.1	A
P_D	Total Power Dissipation		$T_C = 25^\circ\text{C}$	40	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	3.12	$^\circ\text{C/W}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	2N6037	I _C =0.1A ; I _B =0	40			V
		2N6038		60			
		2N6039		80			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =2A; I _B =8mA			2.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =4A; I _B =40mA			3.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =4A; I _B =40mA			4.0	V
V _{BE}	Base-emitter on voltage		I _C =2A ; V _{CE} =3V			2.8	V
I _{CEO}	Collector cut-off current		V _{CE} =Rated V _{CEO} ; I _B =0			0.1	mA
I _{CEX}	Collector cut-off current		V _{CE} =Rated V _{CEO} ; V _{BE(off)} =1.5V T _C =125°C			0.1 0.5	mA
I _{CBO}	Collector cut-off current		V _{CB} =Rated V _{CBO} ; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			2.0	mA
h _{FE-1}	DC current gain		I _C =0.5A ; V _{CE} =3V	500			
h _{FE-2}	DC current gain		I _C =2A ; V _{CE} =3V	750		15000	
h _{FE-3}	DC current gain		I _C =4A ; V _{CE} =3V	100			
C _{OB}	Output capacitance		I _E =0; V _{CB} =10V; f=0.1MHz			100	pF

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PACKAGE OUTLINE

