

2N6576
2N6577
2N6578

SILICON
NPN DARLINGTON
POWER TRANSISTORS



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N6576, 2N6577, and 2N6578 are silicon NPN Darlington power transistors designed for general purpose switching applications.



TO-3 CASE

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Peak Base Current
Continuous Emitter Current
Peak Emitter Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	2N6576	2N6577	2N6578	UNITS
V_{CB0}	60	90	120	V
V_{CEO}	60	90	120	V
V_{EBO}		7.0		V
I_C		15		A
I_{CM}		30		A
I_B		250		mA
I_{BM}		500		mA
I_E		15.25		A
I_{EM}		30.50		A
P_D		120		W
T_J, T_{stg}		-65 to +200		$^\circ\text{C}$
θ_{JC}		1.46		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$		500	μA
I_{CEV}	$V_{CE}=\text{Rated } V_{CEO}, V_{EB}=1.5\text{V}$		5.0	mA
I_{CER}	$V_{CE}=\text{Rated } V_{CEO}, R_{BE}=10\text{k}\Omega, T_C=150^\circ\text{C}$		5.0	mA
I_{CEO}	$V_{CE}=\text{Rated } V_{CEO}$		1.0	mA
I_{EBO}	$V_{EB}=7.0\text{V}$		7.5	mA
BV_{CEO}	$I_C=200\text{mA}$ (2N6576)	60		V
BV_{CEO}	$I_C=200\text{mA}$ (2N6577)	90		V
BV_{CEO}	$I_C=200\text{mA}$ (2N6578)	120		V
$V_{CE(SAT)}$	$I_C=10\text{A}, I_B=100\text{mA}$		2.8	V
$V_{CE(SAT)}$	$I_C=15\text{A}, I_B=150\text{mA}$		4.0	V
$V_{BE(SAT)}$	$I_C=10\text{A}, I_B=100\text{mA}$		3.5	V
$V_{BE(SAT)}$	$I_C=15\text{A}, I_B=150\text{mA}$		4.5	V
h_{FE}	$V_{CE}=3.0\text{V}, I_C=400\text{mA}$	200		
h_{FE}	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$	2.0K	20K	
h_{FE}	$V_{CE}=3.0\text{V}, I_C=10\text{A}$	500	5.0K	
h_{FE}	$V_{CE}=4.0\text{V}, I_C=15\text{A}$	100		

R1 (4-April 2014)

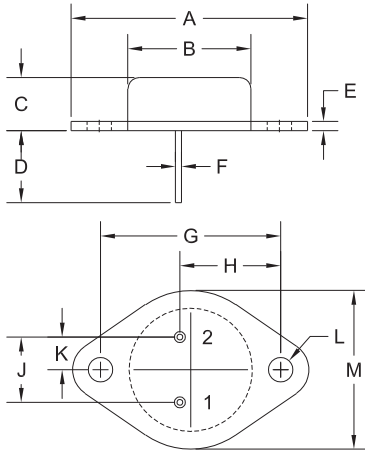
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ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V_F	$I_{EC}=15\text{A}$		4.5	V
f_T	$V_{CE}=3.0\text{V}$, $I_C=3.0\text{A}$, $f=1.0\text{MHz}$	10	200	MHz
t_d	$V_{CC}=30\text{V}$, $I_C=10\text{A}$, $I_{B1}=100\text{mA}$		0.15	μs
t_r	$V_{CC}=30\text{V}$, $I_C=10\text{A}$, $I_{B1}=100\text{mA}$		1.0	μs
t_s	$V_{CC}=30\text{V}$, $I_C=10\text{A}$, $I_{B1}=I_{B2}=100\text{mA}$		2.0	μs
t_f	$V_{CC}=30\text{V}$, $I_C=10\text{A}$, $I_{B1}=I_{B2}=100\text{mA}$		7.0	μs

TO-3 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.516	1.573	38.50	39.96
B (DIA)	0.748	0.875	19.00	22.23
C	0.250	0.450	6.35	11.43
D	0.433	0.516	11.00	13.10
E	0.054	0.065	1.38	1.65
F	0.035	0.045	0.90	1.15
G	1.177	1.197	29.90	30.40
H	0.650	0.681	16.50	17.30
J	0.420	0.440	10.67	11.18
K	0.205	0.225	5.21	5.72
L (DIA)	0.151	0.172	3.84	4.36
M	0.984	1.050	25.00	26.67

TO-3 (REV: R2)

R2

LEAD CODE:

- 1) Base
- 2) Emitter
- Case) Collector

MARKING:

FULL PART NUMBER

R1 (4-April 2014)