

isc Silicon NPN Darlington Power Transistor

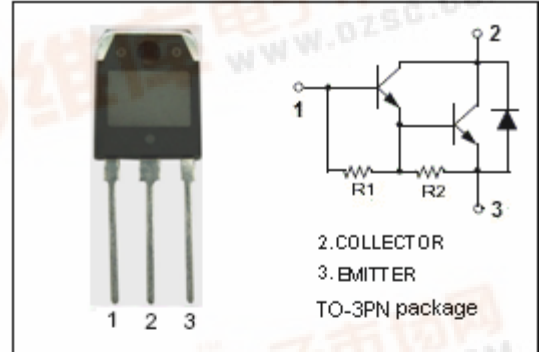
2SD1026

DESCRIPTION

- High DC Current Gain  
:  $h_{FE} = 1500(\text{Min.}) @ I_C = 10A, V_{CE} = 3V$
- High Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 100V(\text{Min})$

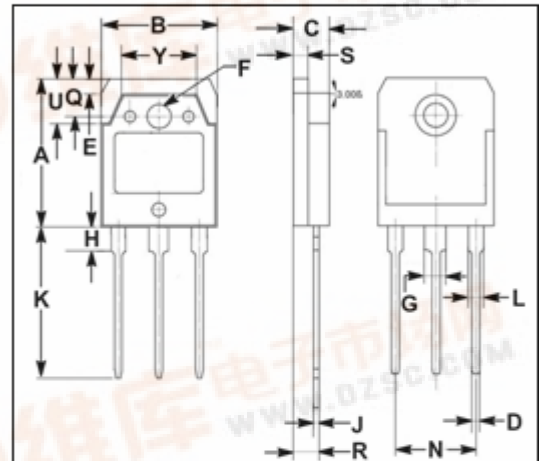
APPLICATIONS

- Designed for general purpose amplifier applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Peak	22	A
$I_B$	Base Current- Continuous	1	A
$I_{BM}$	Base Current- Peak	2	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	100	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C/W}$



**isc Silicon NPN Darlington Power Transistor****2SD1026****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}, I_B=0$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}, I_B=20\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}, I_B=20\text{mA}$			2.0	V
$I_{CBO}$	Collector Cutoff current	$V_{CB}=100\text{V}, I_E=0$			0.1	mA
$I_{CEO}$	Collector Cutoff current	$V_{CE}=100\text{V}, I_B=0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			5	mA
$f_T$	Current-Gain—Bandwidth Product	$I_C=1.5\text{A}; V_{CE}=10\text{V}$		20		MHz
$h_{FE}$	DC Current Gain	$I_C=10\text{A}; V_{CE}=3\text{V}$	1500			

## Switching Times

$t_{on}$	Turn-On Time	$I_C=15\text{A}, I_{B1}=-I_{B2}=20\text{mA};$ $R_L=2\Omega; V_{BB2}=4\text{V}$			2.0	$\mu\text{s}$
$t_{stg}$	Storage Time				5.0	$\mu\text{s}$
$t_f$	Fall Time				3.0	$\mu\text{s}$