

isc Silicon PNP Darlington Power Transistor

2SB1383

DESCRIPTION

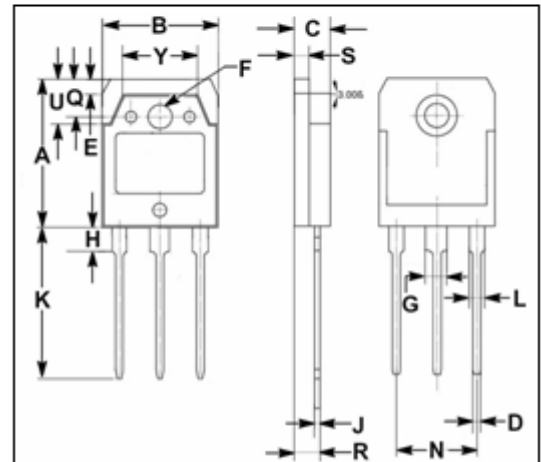
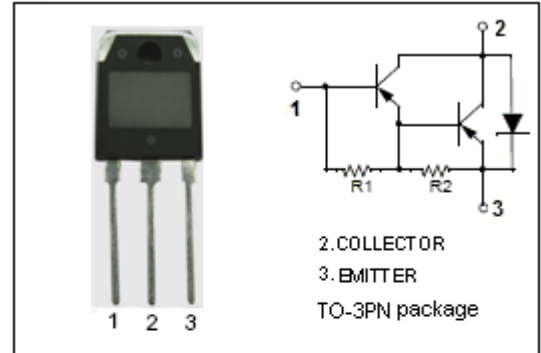
- High DC Current Gain
: $h_{FE} = 2000(\text{Min.}) @ I_C = -12A, V_{CE} = -4V$
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -120V(\text{Min})$
- Complement to Type 2SD2083

APPLICATIONS

- Designed for driver of solenoid, motor and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-120	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current-Continuous	-25	A
I_{CM}	Collector Current-Peak	-40	A
I_B	Base Current- Continuous	-2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	120	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

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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -25\text{mA}$, $I_B = 0$	-120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -12\text{A}$, $I_B = -24\text{mA}$			-1.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -12\text{A}$, $I_B = -24\text{mA}$			-2.5	V
I_{CBO}	Collector Cutoff current	$V_{CB} = -120\text{V}$, $I_E = 0$			-10	μA
I_{EBO}	Emitter Cutoff current	$V_{EB} = -6\text{V}$, $I_C = 0$			-10	mA
h_{FE}	DC Current Gain	$I_C = -12\text{A}$; $V_{CE} = -4\text{V}$	2000			
C_{OB}	Output Capacitance	$I_E = 0$; $V_{CB} = -10\text{V}$; $f_{\text{test}} = 1\text{MHz}$		230		pF
f_T	Current-Gain—Bandwidth Product	$I_E = 1\text{A}$; $V_{CE} = -12\text{V}$		50		MHz

Switching Times

t_{on}	Turn-On Time	$I_C = -12\text{A}$, $I_{B1} = -I_{B2} = -24\text{mA}$; $V_{CC} = -24\text{V}$, $R_L = 2\ \Omega$		1.0		μs
t_{stg}	Storage Time			3.0		μs
t_f	Fall Time			1.0		μs