

isc Silicon NPN Darlington Power Transistor

2SD1525

DESCRIPTION

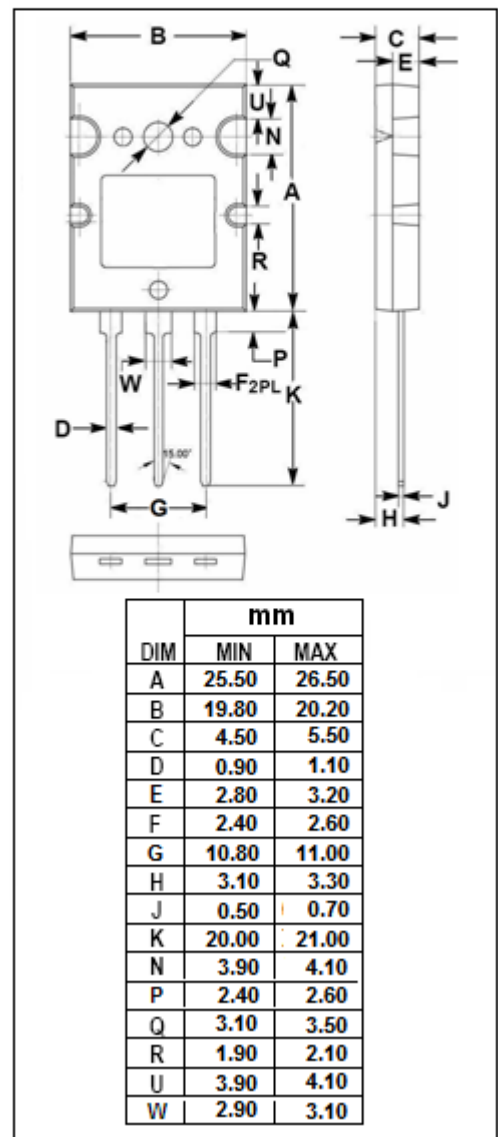
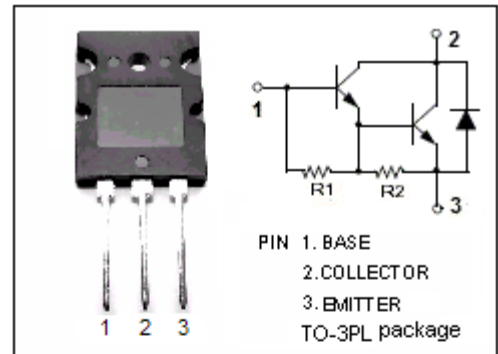
- High DC Current Gain
: $h_{FE} = 1000(\text{Min.}) @ I_C = 20A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 100V(\text{Min.})$

APPLICATIONS

- Designed for high current switching 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	5	V
I_C	Collector Current-Continuous	30	A
I_B	Base Current- Continuous	5	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	150	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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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	$I_C=50\text{mA}$, $I_B=0$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=20\text{A}$, $I_B=0.2\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=20\text{A}$, $I_B=0.2\text{A}$			2.5	V
I_{CBO}	Collector Cutoff current	$V_{CB}=100\text{V}$, $I_E=0$			0.1	mA
I_{EBO}	Emitter Cutoff current	$V_{EB}=5\text{V}$, $I_C=0$			10	mA
h_{FE-1}	DC Current Gain	$I_C=20\text{A}$; $V_{CE}=5\text{V}$	1000			
h_{FE-2}	DC Current Gain	$I_C=30\text{A}$; $V_{CE}=5\text{V}$	200			
V_{ECF}	C-E Diode Forward Voltage	$I_F=10\text{A}$			3.0	V
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}$; $V_{CE}=5\text{V}$		10		MHz
C_{OB}	Output Capacitance	$I_E=0$; $V_{CB}=10\text{V}$; $f_{test}=1\text{MHz}$		500		pF

Switching Times

t_{on}	Turn-On Time	$I_{B1} = -I_{B2} = 10\text{mA}$; $V_{CC} = 50\text{V}$; $R_L = 10\ \Omega$		1.5		μs
t_{stg}	Storage Time			10		μs
t_f	Fall Time			1.5		μs