

isc Silicon NPN Darlington Power Transistor

2SD2250

DESCRIPTION

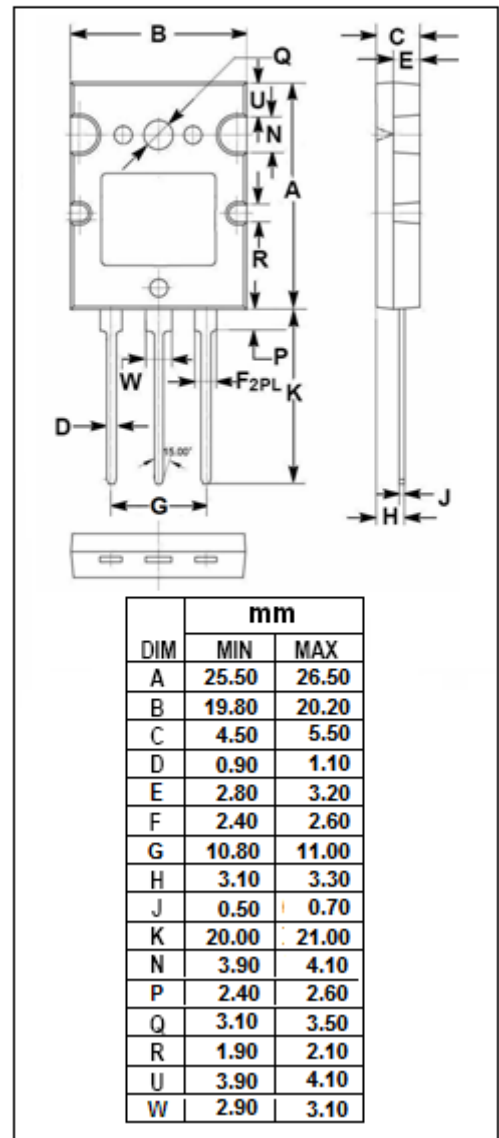
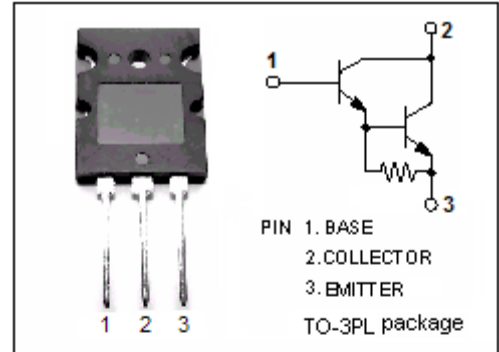
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 140V(\text{Min})$
- High DC Current Gain-
: $h_{FE} = 5000(\text{Min.}) @ (I_C = 6A, V_{CE} = 5V)$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 2.5V(\text{Max}) @ (I_C = 6A, I_B = 6mA)$
- Complement to Type 2SB1490

APPLICATIONS

- Designed for power amplification.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	12	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3.5	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	90	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	140			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 6mA			2.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6A; I _B = 6mA			3.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 160V; I _E = 0			100	μ A
I _{CEO}	Collector Cutoff Current	V _{CE} = 140V; I _B = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			100	μ A
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	2000			
h _{FE-2}	DC Current Gain	I _C = 6A; V _{CE} = 5V	5000		30000	
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 10V		20		MHz

Switching Times

t _{on}	Turn-on Time	V _{CC} = 50V, I _C = 6A; I _{B1} = -I _{B2} = 6mA,		2.5		μ s
t _{stg}	Storage Time			5.0		μ s
t _f	Fall Time			2.5		μ s

◆ h_{FE-2} Classifications

Q	P
5000-15000	8000-30000