

isc Silicon NPN Darlington Power Transistor

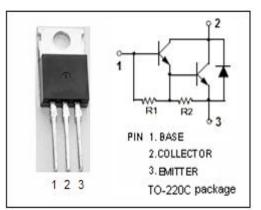
2SD1565

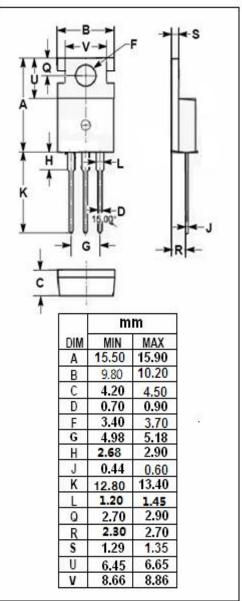
DESCRIPTION

- Collector-Emitter Breakdown Voltage-: V_{(BR)CEO}= 100V(Min)
- High DC Current Gain : h_{FE}= 2000(Min)@ (V_{CE}= 2V, I_C= 2A)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

• Designed for low frequency power amplifiers and low speed switching applications.





ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT	
V _{CBO}	Collector-Base Voltage	100	V	
Vceo	Collector-Emitter Voltage	100	V	
V _{EBO}	Emitter-Base Voltage	7	V	
lc	Collector Current-Continuous	5	A	
I _{CM}	Collector Current-Peak	10	A	
I _B	Base Current-Continuous	0.5	A	
Pc	Collector Power Dissipation @Ta=25°C	2	w	
	Collector Power Dissipation @Tc=25℃	30		
TJ	Junction Temperature	150	°C	
T _{stg}	Storage Temperature	-55~150	°C	

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¹ *isc & iscsemi* is registered trademark



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ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	МАХ	UNIT
V _{CE} (sat)	Collector-Emitter Saturation Voltage	I _C = 2Α; I _B = 2mA			1.5	V
$V_{\text{BE}(\text{sat})}$	Base-Emitter Saturation Voltage	I _C = 2Α; I _B = 2mA			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0			1.0	μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			3	mA
hfe-1	DC Current Gain	I _C = 2A; V _{CE} = 2V	2000		20000	
h _{FE-2}	DC Current Gain	I _C = 4A; V _{CE} = 2V	500			
Сов	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1MHz		60		pF
fT	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 5V		80		MHz

Switching Times

t _{on}	Turn-on Time	I _C = 2A, I _{B1} = I _{B2} = 2mA, V _{CC} ≈ 50V; R _L = 25 Ω	1.0	μ S
t _{stg}	Storage Time		3.5	μs
t _f	Fall Time		1.2	μs

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