

isc Silicon NPN Power Transistor

2SC5143

DESCRIPTION

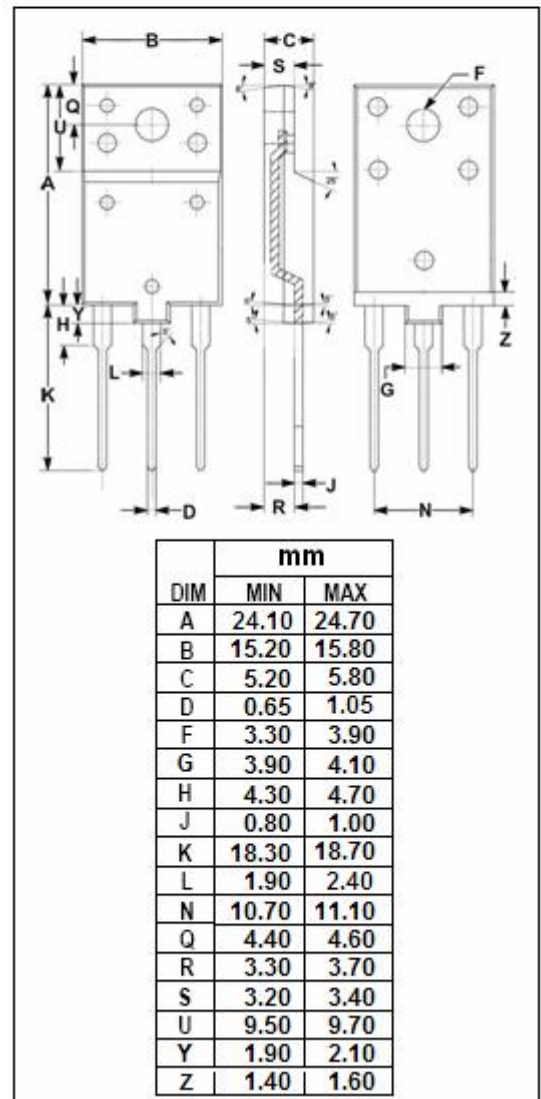
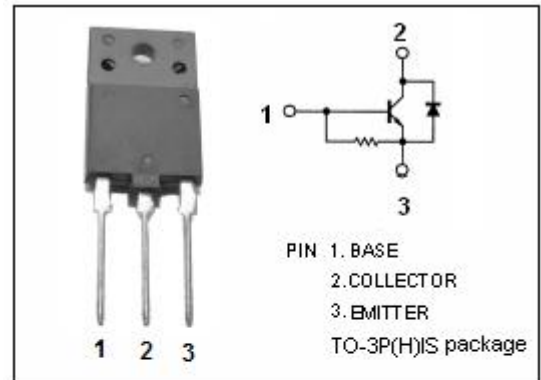
- High Breakdown Voltage-
: $V_{CBO} = 1700V$ (Min)
- High Switching Speed
- Low Saturation Voltage
- Built-in Damper Diode
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Horizontal deflection output for high resolution display & color TV.
- High speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1700	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current- Continuous	10	A
I_{CM}	Collector Current- Continuous	20	A
I_B	Base Current- Continuous	5	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	50	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



isc Silicon NPN Power Transistor**2SC5143****ELECTRICAL CHARACTERISTICS****T_C=25℃ unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 400mA; I _C = 0	5			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 1.5A			3.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6A; I _B = 1.5A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 1700V; I _E = 0			1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0	83		250	mA
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	8		25	
h _{FE-2}	DC Current Gain	I _C = 6A; V _{CE} = 5V	4		8.5	
V _{ECF}	C-E Diode Forward Voltage	I _F = 6A			1.8	V
f _T	Current-Gain—Bandwidth Product	I _C = 0.1A; V _{CE} = 10V		2		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} =1.0MHz		185		pF

Switching Times

t _{stg}	Storage Time	I _{CP} = 5A; I _{B1(end)} = 1A; f _H = 31.5kHz			6.0	μ s
t _f	Fall Time				0.5	μ s

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