

isc Silicon NPN Power Transistor

MD2310FX

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 700V$ (Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

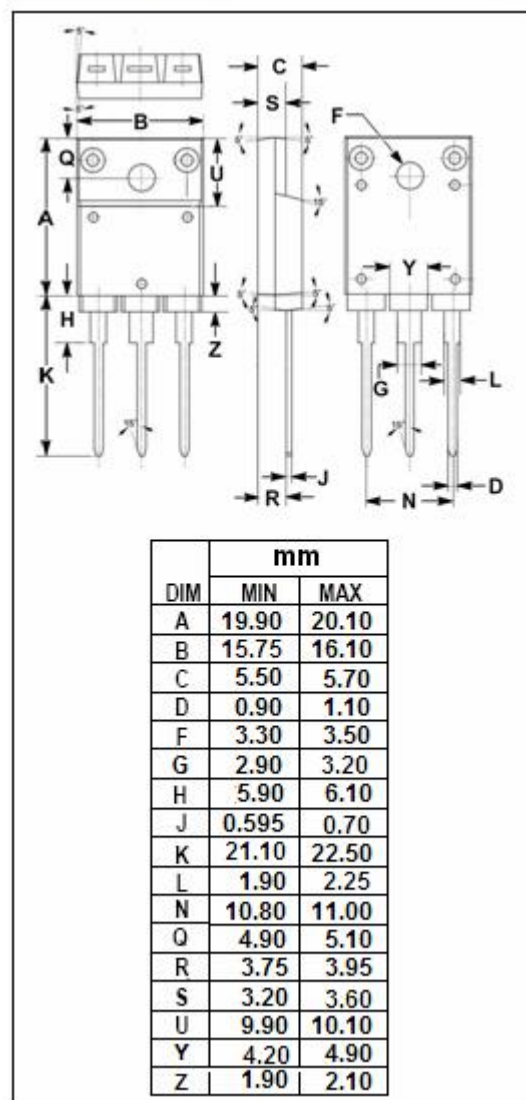
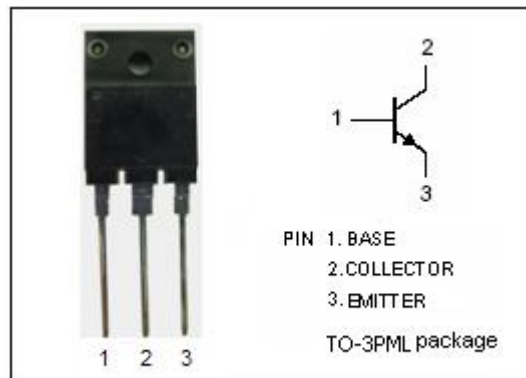
- Horizontal deflection output for monitor and real flat TV
- Switch mode power supplies for CRT TV

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current- Continuous	14	A
I_{CM}	Collector peak current ($t_p < 5ms$)	21	A
I_B	Base Current- Continuous	7	A
P_{TOT}	Total dissipation at $T_C=25^{\circ}C$	62	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.0	$^{\circ}C/W$



isc Silicon NPN Power Transistor**MD2310FX****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(sus)} ⁽¹⁾	Collector-emitter sustaining Voltage	I _C = 50mA; I _C = 0	700			V
V _{CE(sat)} ⁽¹⁾	Collector-Emitter Saturation Voltage	I _C = 7.0A; I _B =1.75A			2.5	V
V _{BE(sat)} ⁽¹⁾	Base-Emitter Saturation Voltage	I _C = 7.0A; I _B =1.75A			1.1	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 1500V ; I _E = 0 V _{CB} = 1500V ; I _E = 0 ,TC=125			0.2 2	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 9V ; I _C = 0			1	mA
h _{FE-1} ⁽¹⁾	DC Current Gain	I _C =1A ; V _{CE} = 5V		28		
h _{FE-2} ⁽¹⁾	DC Current Gain	I _C = 7A ; V _{CE} = 1V		5.5		
h _{FE-3} ⁽¹⁾	DC Current Gain	I _C = 7A ; V _{CE} = 5V	6		8.5	

Switching times

t _s	Storage Time	I _{CP} = 6A , I _{B(on)} = 0.9A ; f _H = 64kHz V _{BE(off)} = -2.7V, L _{BB(OFF)} =1.6uH		2.3	2.8	μs
t _f	Fall Time			0.12	0.25	μs

1. Pulsed duration =300us,duty cycle ≤1.5%

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