

isc Silicon NPN Power Transistor

MD1802FX

DESCRIPTION

- High Voltage
- Low base-drive requirements
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 700V$ (Min)

APPLICATIONS

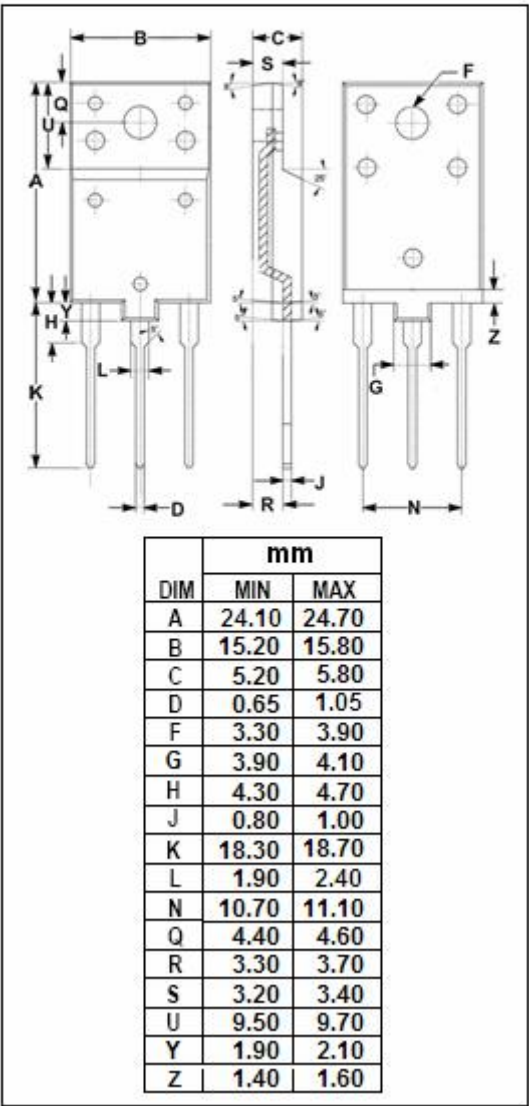
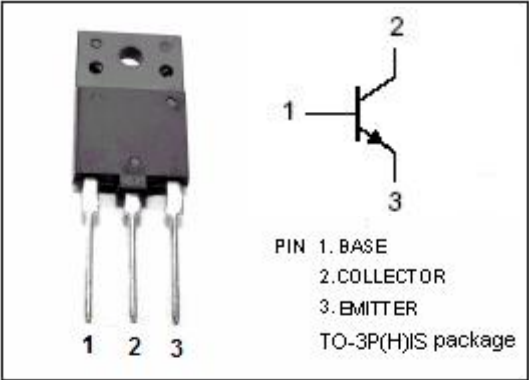
- Horizontal deflection output for TV
- Switch mode power supplies for CRT TV

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	10	A
I_{CM}	Collector peak current ($t_p < 5ms$)	15	A
I_B	Base Current- Continuous	5	A
P_{TOT}	Total dissipation at $T_c=25^{\circ}C$	57	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	2.2	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(sus)}$	Collector-emitter sustaining Voltage	$I_C=10\text{mA}; I_E=0$	700			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5.0\text{A}; I_B=1.25\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5.0\text{A}; I_B=1.25\text{A}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=1500\text{V}; I_E=0$			0.2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			1	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$		23		
h_{FE-2}	DC Current Gain	$I_C=5\text{A}; V_{CE}=1\text{V}$		5.5		
h_{FE-3}	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	5.5			

Switching times

t_s	Inductive load Storage Time	$I_{CP}=4\text{A}, I_{B(on)}=0.5\text{A};$ $f_H=16\text{kHz}$ $V_{BE(off)}=-2.7\text{V},$ $L_{BB(off)}=4.5\mu\text{H}$		2.4		μs
t_f	Fall Time			0.2		μs

1. Pulsed duration =300us,duty cycle $\leq 1.5\%$