POWER™

Green Package

PTM13002A

NPN Silicon Power Transistor
1.0 Amperes / 1.0 Watts

TO-92

1. Emitter 2. Collector 3. Base

Switch Mode series NPN silicon Power Transistor

- High voltage, high speed power switching
- Suitable for switching regulator, inverters motor controls

Absolute Maximum Ratings TC=25℃ unless otherwise noted

CHARACTERISTICS	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current(DC)	I_C	1.0	A
Collector Current(Pulse)	I_{CP}	3	A
Base Current	I_B	0.75	A
Collector Dissipation(Tc=25℃)	P_C	1.0	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-65~150	℃

Electrical Characteristics TC=25℃ unless otherwise noted

CHARACTERISTICS	SYMBOL	Test Condition	Min	Typ.	Max	Unit
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=5mA, I_B=0	400			V
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V,I_C=0			10	μA
*DC Current Gain	h_{FE1} h_{FE2}	V_{CE}=5V,I_C=5mA V_{CE}=5V,I_C=0.2A	8 20		 30	
*Collector-Emitter Saturation Voltage	V_{CE}(sat)	I_C=0.5A,I_B=0.1A			0.5	V
*Base-Emitter Saturation Voltage	V_{BE}(sat)	I_C=0.5A,I_B=0.1A			1	V
Storage Time	t_{stg}	I_C=0.25A, (UI9600)	2.0		4.0	μS

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Characteristics

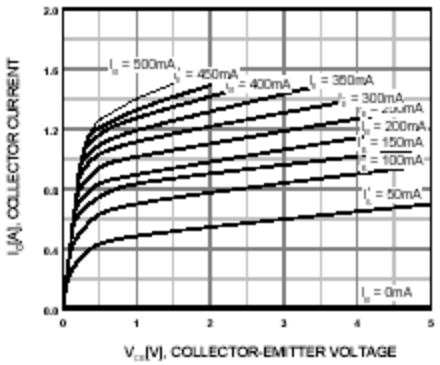


Figure 1. Static Characteristic

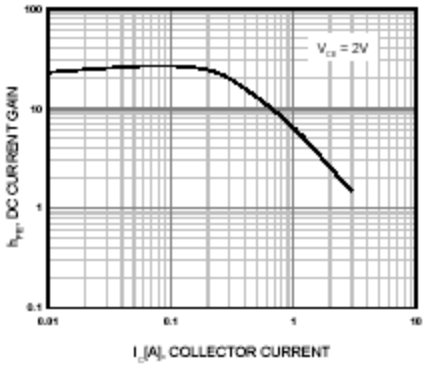


Figure 2. DC current Gain

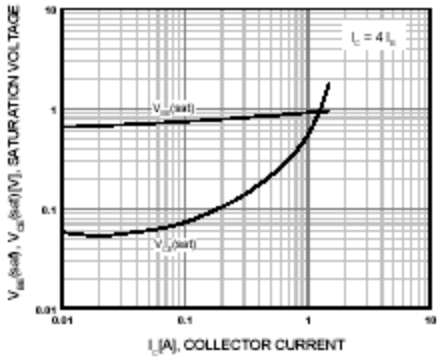


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

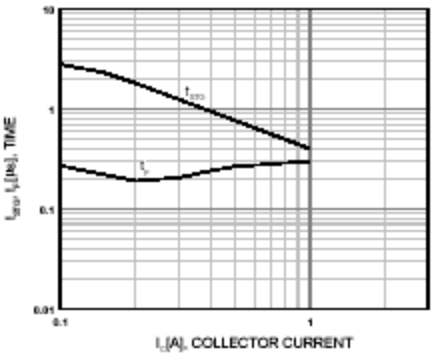


Figure 4. Switching Time

Power Derating

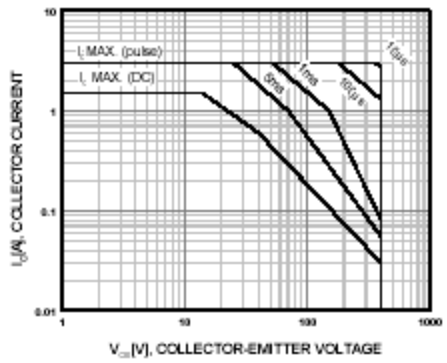


Figure 5. Safe Operating Area

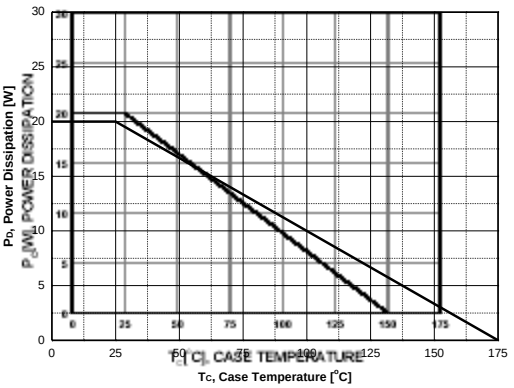
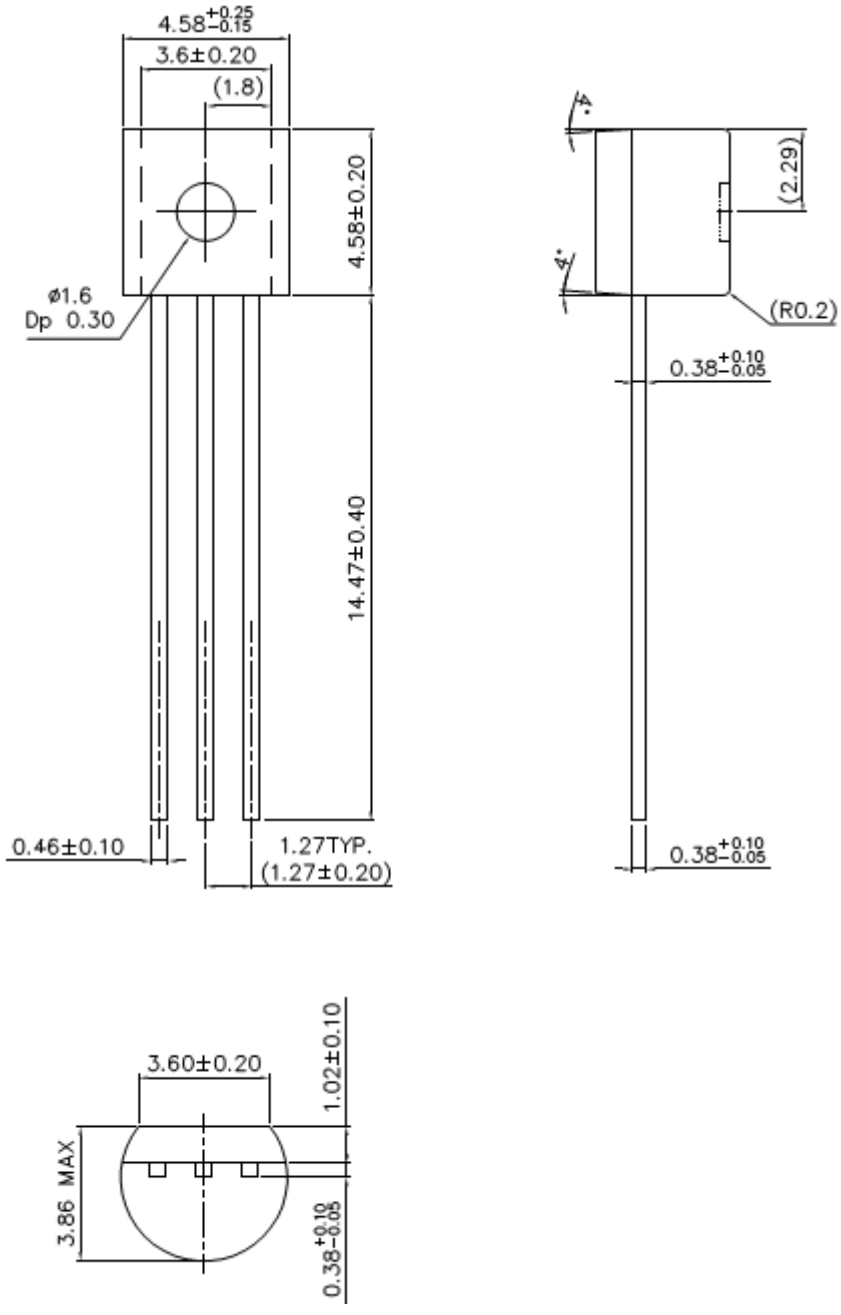


Figure 6. Power Derating

Package Dimension

TO-92



Dimensions in Millimeters