

WPT14G01

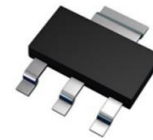
Single, PNP, -140V, Power Transistor

[Http://www.sh-willsemi.com](http://www.sh-willsemi.com)

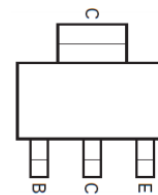
Descriptions

The WPT14G01 is PNP bipolar power transistor. This device is suitable for use in Motor driver, LED driver and power supply. Standard Product WPT14G01 is Pb-free.

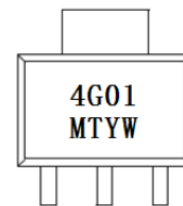
SOT223



Top View



Pin configuration (Top view)



Features

- High Voltage: $V_{CEO} > -140V$
- High DC current gain >100
- $I_{CM} = -10A$ Peak Pulse Current
- Low Saturation Voltage $V_{CE(sat)} < -150mV @ -1A$

4G01 = Device Code
 MT = Special Code
 Y =Year
 W =Week

Marking

Applications

- Power supply
- LED driver

Order information

Device	Package	Shipping
WPT14G01-3/TR	SOT-223	2500/Reel&Tape

Absolute Maximum ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	-140	V
Collector-base voltage	V_{CBO}	-180	V
Emitter-base voltage	V_{EBO}	-6	V
Continues collector current ^a	I_C	-4.5	A
Continues collector current ^b		-2.8	A
Pulse collector current	I_{CM}	-10	A
Power dissipation ^a	P_D	1.6	W
Power dissipation ^b		1	W
Junction Temperature	T_J	150	°C
Lead Temperature	T_L	260	°C
Storage Temperature Range	T_{stg}	-55~155	°C

Thermal resistance ratings

THERMAL RESISTANCE RATINGS				
Parameter		Symbol	Typical	Unit
Junction-to-Ambient Thermal Resistance ^a	Steady State	$R_{\theta JA}$	80	°C/W
Junction-to-Ambient Thermal Resistance ^b	Steady State	$R_{\theta JA}$	120	

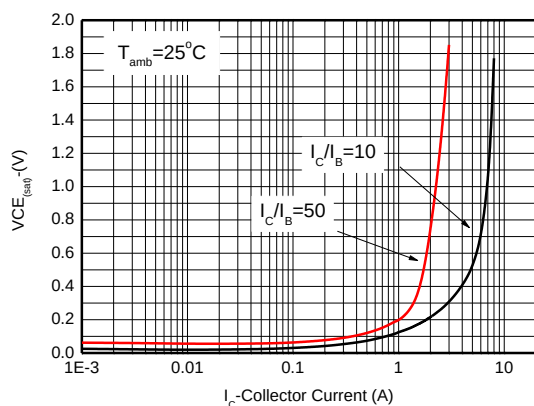
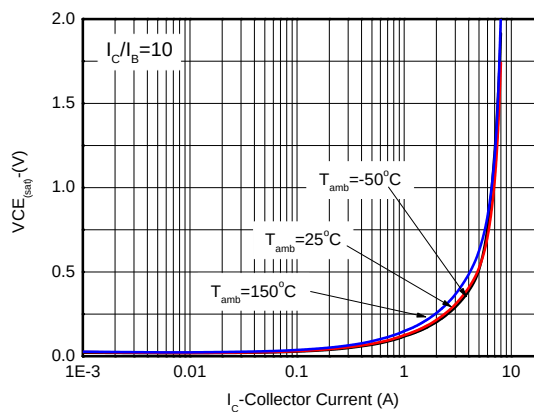
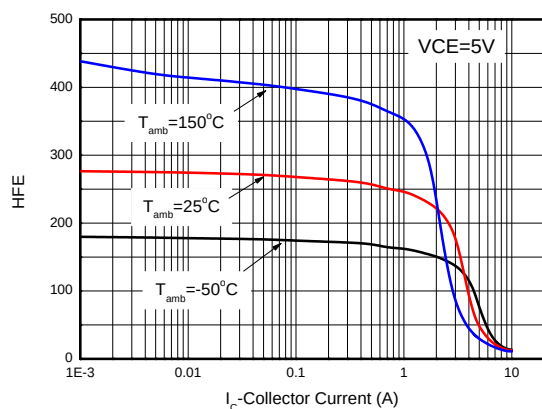
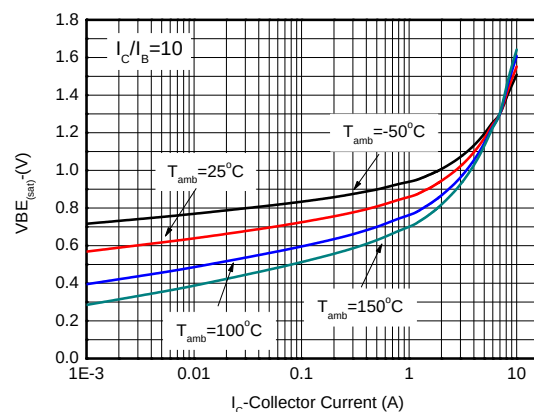
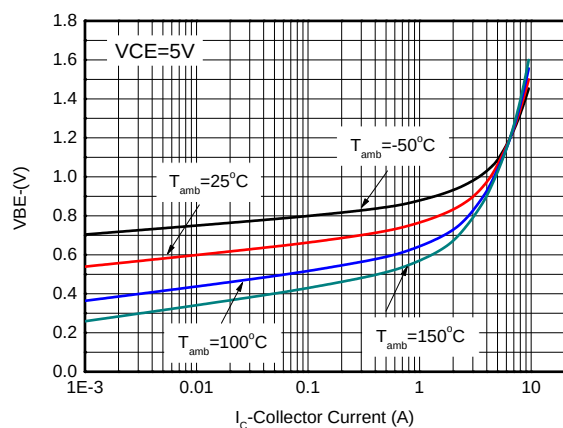
a Surface mounted on FR4 Board using 1 square inch pad size, 1oz copper

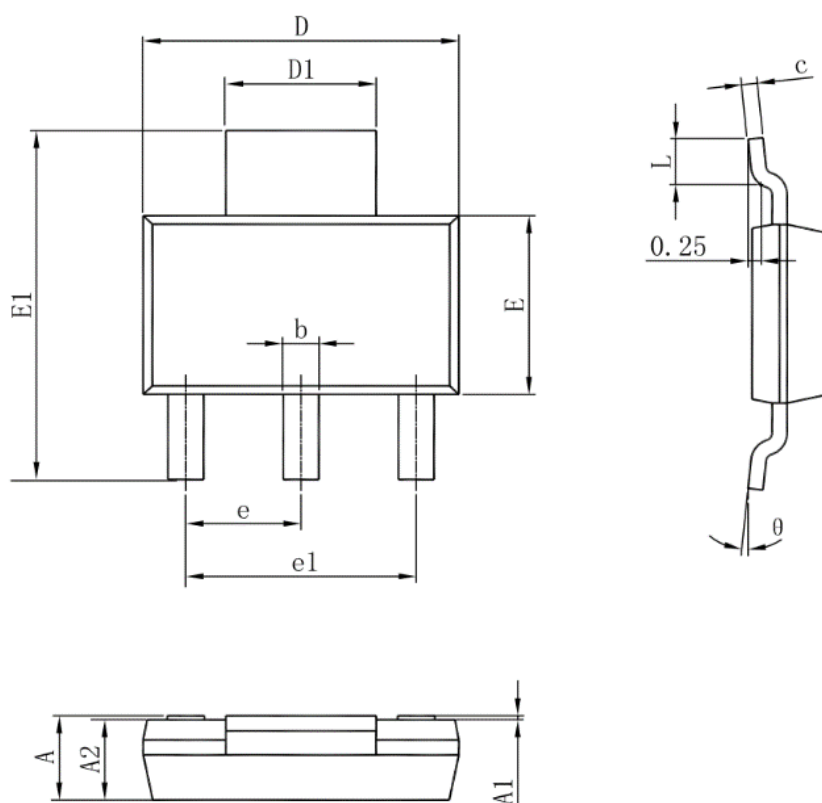
b Surface mounted on FR4 board using minimum pad size, 1oz copper

c Pulse width=300us,Duty Cycle<2%

Electronics Characteristics ($T_a=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=-1\text{mA}$, $I_B=0\text{mA}$	-140			V
Collector-base breakdown voltage	BV_{CBO}	$I_C=-100\mu\text{A}$, $I_E=0\text{mA}$	-180			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=-100\mu\text{A}$, $I_C=0\text{mA}$	-7			V
Collector cutoff current	I_{CBO}	$V_{CB}=-150\text{V}$			-50	nA
Emitter cutoff current	I_{EBO}	$V_{EB}=-6\text{V}$			-10	nA
Collector-emitter saturation voltage ^c	$V_{ce(sat)}$	$I_C=-1\text{A}$, $I_B=-100\text{mA}$		-110	-150	mV
		$I_C=-3\text{A}$, $I_B=-300\text{mA}$		-275	-350	
Base-emitter saturation voltage ^c	$V_{be(sat)}$	$I_C=-2\text{A}$, $I_B=-200\text{mA}$		-1.0	-1.5	mV
DC current gain ^c	HFE	$I_C=-1\text{A}$, $V_{CE}=-5\text{V}$	100	220	300	
		$I_C=-3\text{A}$, $V_{CE}=-5\text{V}$	75	150		

Typical Characteristics (Ta=25°C, unless otherwise noted)

VCE(sat) vs IC

VCE(sat) vs IC

HFE vs IC

VBE(sat) vs IC

VBE(on) vs IC

Package outline dimensions
SOT-223


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°