

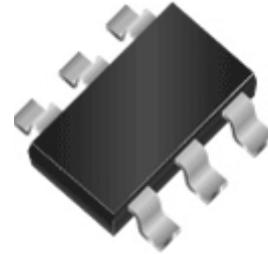
WPT2F30

Single, PNP, -30V, -3A, Power Transistor

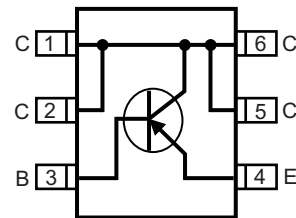
[Http://www.willsemi.com](http://www.willsemi.com)

Descriptions

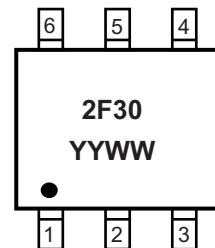
The WPT2F30 is PNP bipolar power transistor with very low saturation voltage. This device is suitable for use in charging circuit and other power management. Standard Product WPT2F30 is Pb-free.



SOT-23-6L



Pin configuration (Top view)



2F30 = Device code
YY = Year
WW = Week
Marking

Features

- Ultra low collector-to-emitter saturation voltage
- High DC current gain >100
- 3A continue collector current
- Small package SOT-23-6L.

Applications

- Charging circuit
- Power regulator
- Other power management in portable equipments

Order information

Device	Package	Shipping
WPT2F30-6/TR	SOT-23-6L	3000/Reel&Tape

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	-30	V
Collector-base voltage	V_{CBO}	-30	V
Emitter-base voltage	V_{EBO}	-6	V
Continues collector current ^a	I_C	-3	A
Continues collector current ^b		-2	A
Pulse collector current ^c	I_{CM}	-6	A
Power dissipation ^a	P_D	1.2	W
Power dissipation ^b		0.8	W
Junction Temperature	T_J	150	°C
Lead Temperature	T_L	260	°C
Storage Temperature Range	T_{stg}	-55 to 150	°C

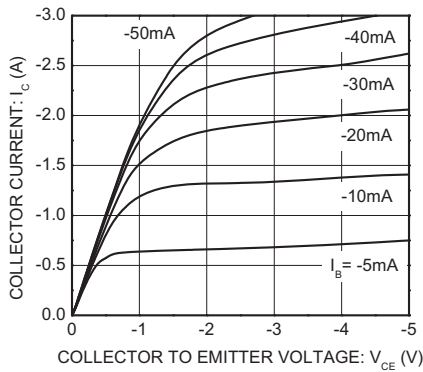
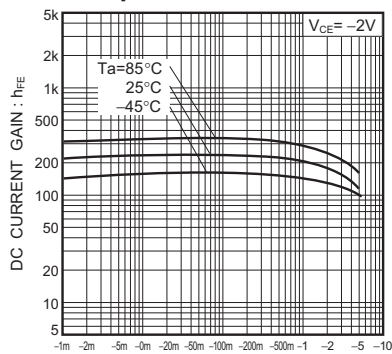
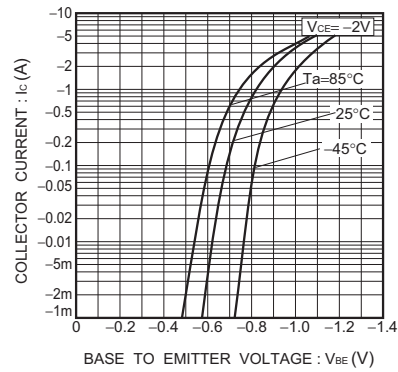
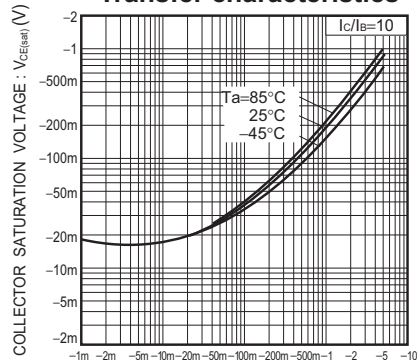
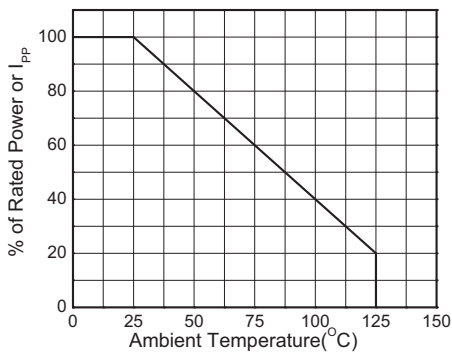
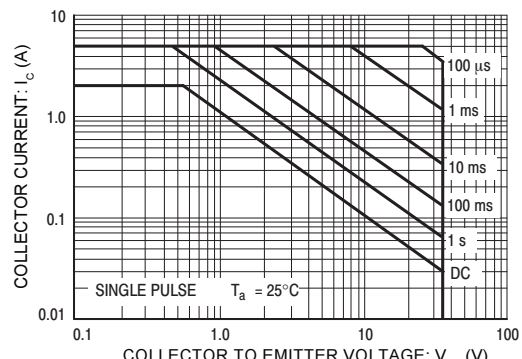
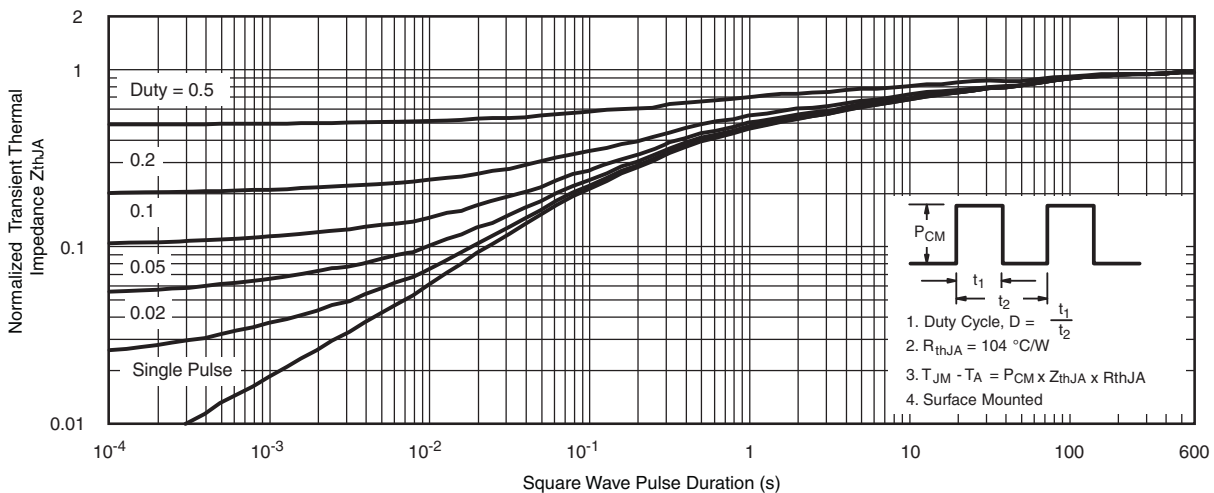
Thermal resistance ratings

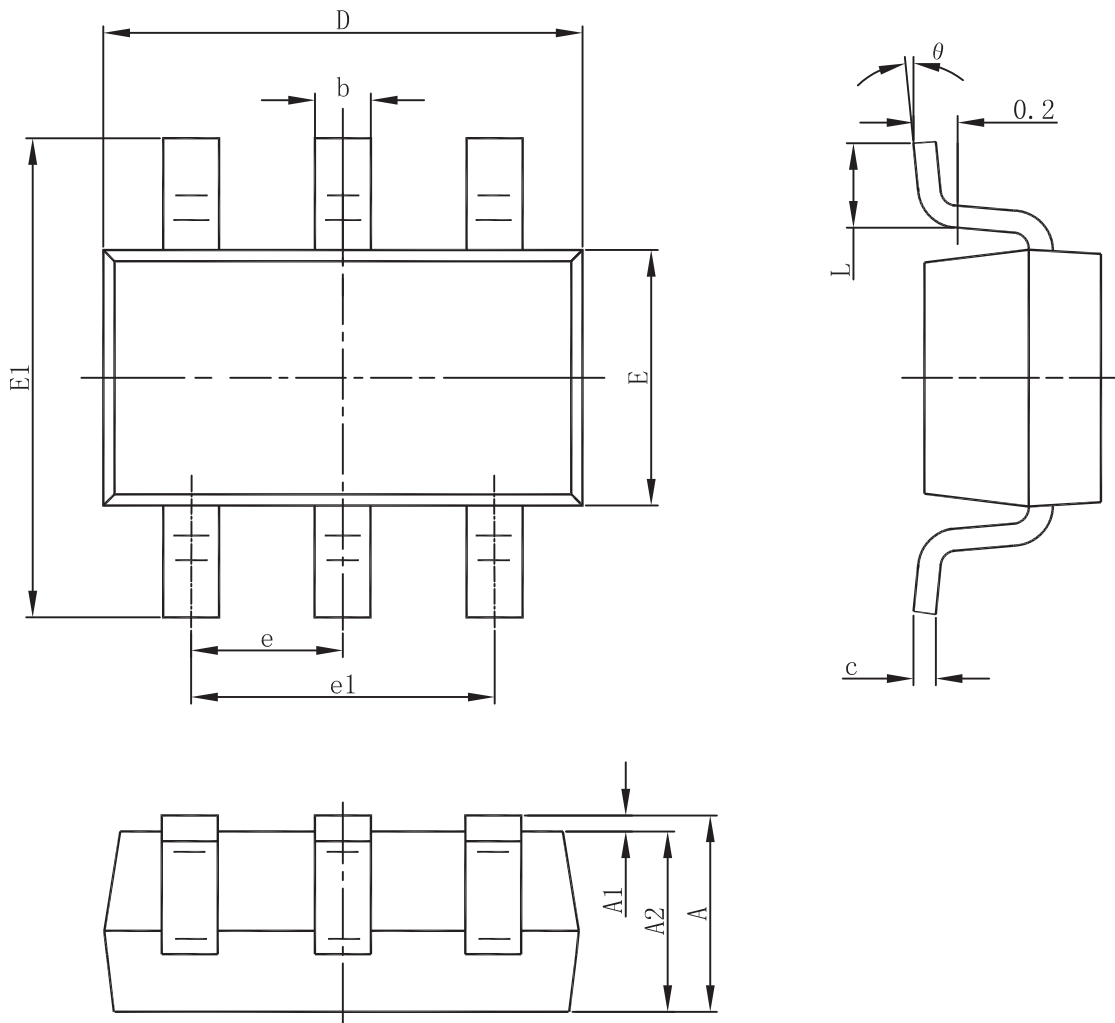
Parameter	Symbol	Value	Unit
Junction-to-Ambient Thermal Resistance ^a	$R_{\theta JA}$	104	°C/W
Junction-to-Ambient Thermal Resistance ^b	$R_{\theta JA}$	155	°C/W

- a Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper
b Surface mounted on FR-4 board using minimum pad size, 1oz copper
c Pulse width=300μs, Duty Cycle<2%
d Maximum junction temperature $T_J=150^{\circ}\text{C}$.

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}	$I_C=-10\text{mA}$, $I_B=0\text{mA}$	-30			V
Collector-base breakdown voltage	BV_{CBO}	$I_C=-1\text{mA}$, $I_E=0\text{mA}$	-30			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=-100\mu\text{A}$, $I_C=0\text{mA}$	-6			V
Collector cutoff current	I_{CBO}	$V_{CB}=-30\text{V}$			-100	nA
Emitter cutoff current	I_{EBO}	$V_{EB}=-5\text{V}$			-100	nA
Collector-emitter saturation voltage ^c	$V_{CE(sat)}$	$I_C=-2\text{A}$, $I_B=-200\text{mA}$		-0.28	-0.35	V
		$I_C=-0.5\text{A}$, $I_B=-5\text{mA}$		-0.20	-0.30	V
		$I_C=-0.8\text{A}$, $I_B=-10\text{mA}$		-0.28	-0.39	V
Base-emitter saturation voltage ^c	$V_{BE(sat)}$	$I_C=-2\text{A}$, $I_B=-200\text{mA}$		-1.0	-1.5	V
Base-emitter forward voltage	$V_{BE(on)}$	$I_C=-0.5\text{A}$, $V_{CE}=-2\text{V}$		-0.7	-1.0	V
DC current gain ^c	h_{FE}	$V_{CE}=-2\text{V}$, $I_C=-1\text{A}$	100	200	300	

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

Output characteristics

DC current gain

Transfer characteristics

C-E saturation voltage vs. Collector current

Power Derating

Safe operating area

Transient thermal response (Junction-to-Ambient)

Package outline dimensions
SOT-23-6L


Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	1.050	1.150	1.250
A1	0.000	-	0.100
A2	1.050	1.100	1.150
b	0.300	0.400	0.500
c	0.100	-	0.200
D	2.820	2.920	3.020
E	1.500	1.600	1.700
E1	2.650	2.800	2.950
e	0.950(Basic)		
e1	1.800	1.900	2.000
L	0.300	-	0.600
θ	0°	-	8°