

**WPT2N41**
**Single, PNP, -30V, -3A, Power Transistor**
[Http://www.willsemi.com](http://www.willsemi.com)
**Descriptions**

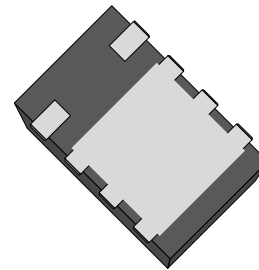
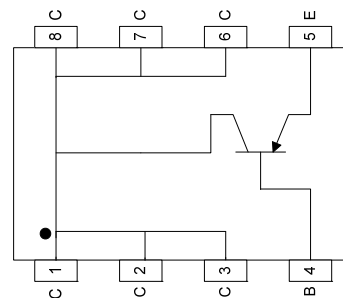
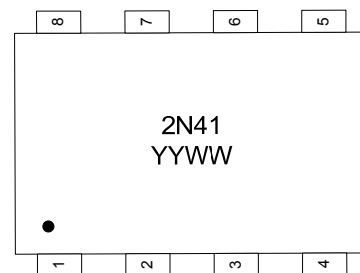
The WPT2N41 is PNP bipolar power transistor with very low saturation voltage. This device is suitable for use in charging circuit and other power management. Standard Product WPT2N41 is Pb-free.

**Features**

- Ultra low collector-to-emitter saturation voltage
- High DC current gain >100
- 3A continue collector current
- Small package PDFN3x2-8L.

**Applications**

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


**PDFN3x2-8L**

**Pin configuration (Top view)**

**2N41 = Device code**
**YY = Year**
**WW = Week**
**Marking**
**Order information**

Device	Package	Shipping
WPT2N41-8/TR	PDFN3x2-8L	3000/Reel&Tape

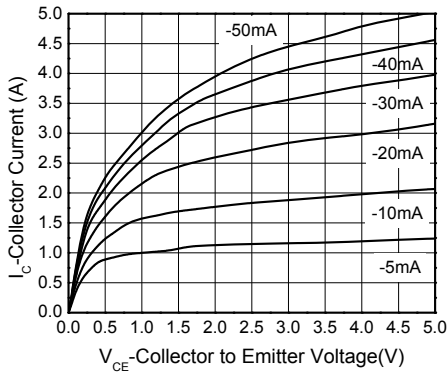
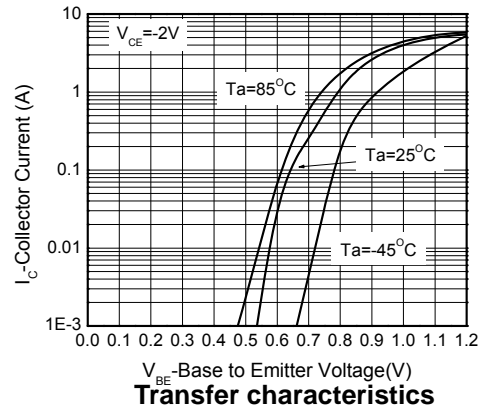
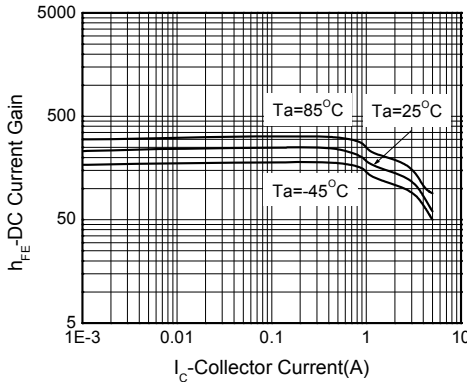
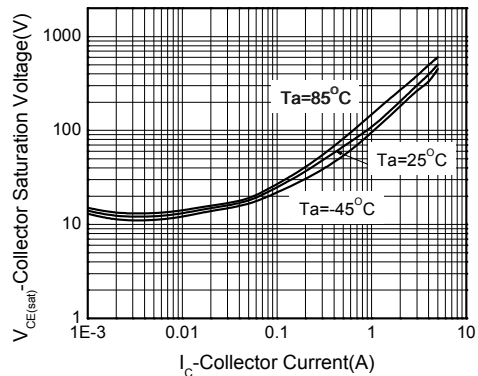
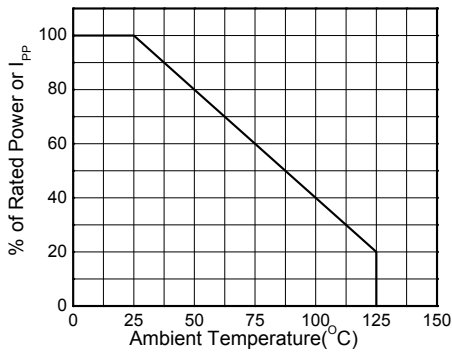
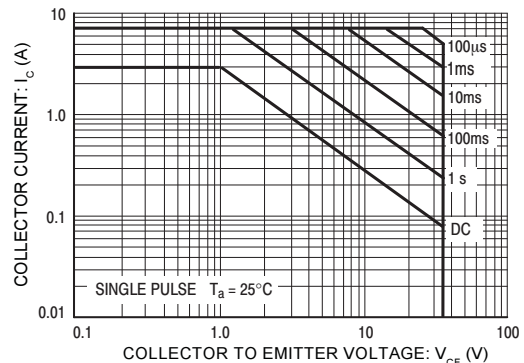
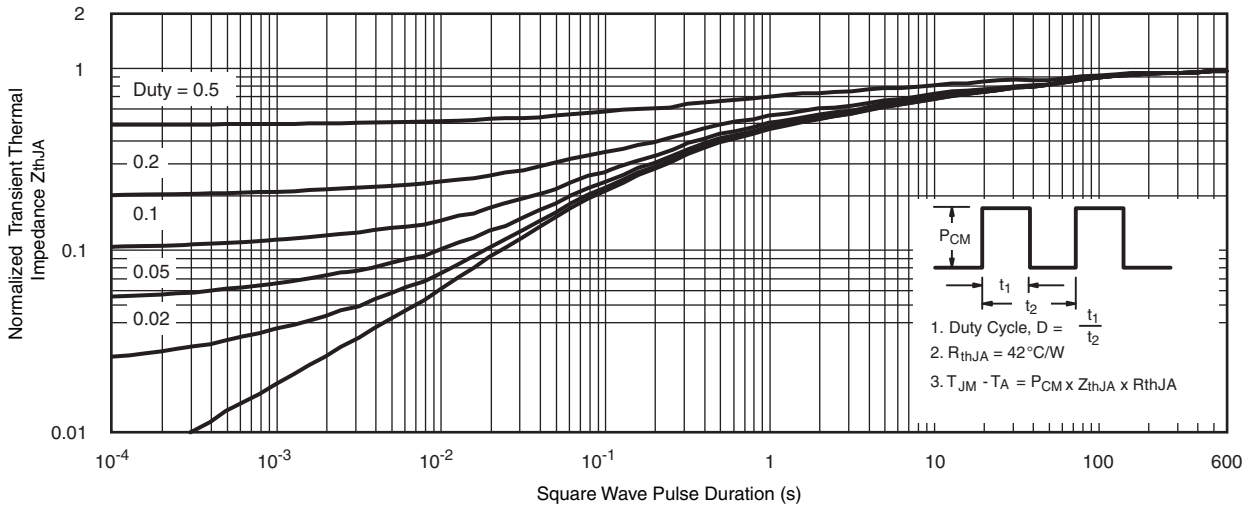
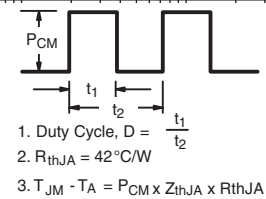
**Absolute maximum ratings**

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$V_{CEO}$	-32	V
Collector-base voltage	$V_{CBO}$	-45	V
Emitter-base voltage	$V_{EBO}$	-6	V
Continues collector current <sup>a</sup>	$I_C$	-3	A
Continues collector current <sup>b</sup>		-2	A
Pulse collector current <sup>c</sup>	$I_{CM}$	-6	A
Power dissipation <sup>a</sup>	$P_D$	3.0	W
Power dissipation <sup>b</sup>		1.2	W
Junction Temperature	$T_J$	150	°C
Lead Temperature	$T_L$	260	°C
Storage Temperature Range	$T_{stg}$	-55~155	°C

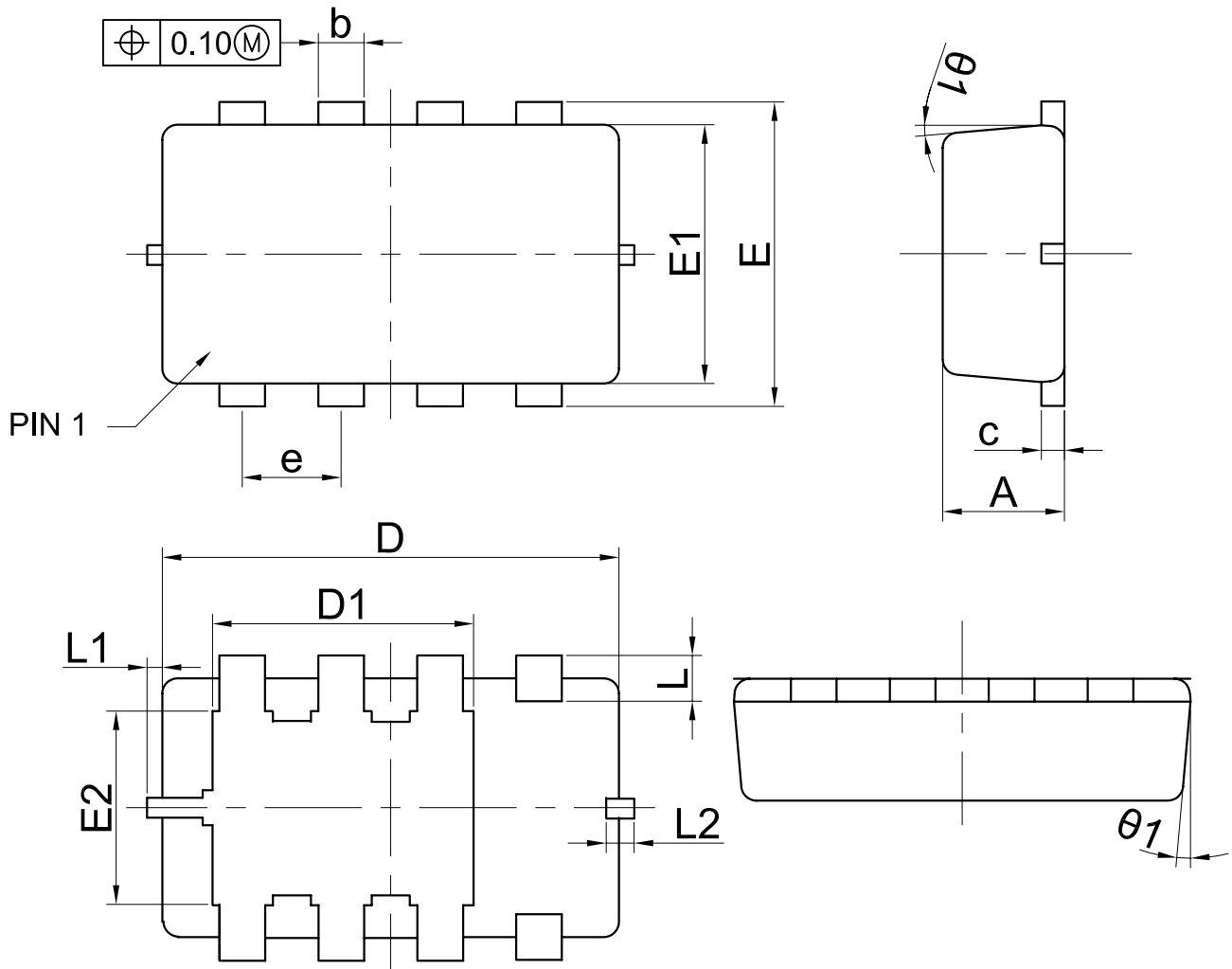
- a Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper  
b Surface mounted on FR-4 board using minimum pad size, 1oz copper  
c Pulse width=300 $\mu$ s, Duty Cycle<2%

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C=-10mA, I_B=0mA$	-32			V
Collector-base breakdown voltage	$BV_{CBO}$	$I_C=-1mA, I_E=0mA$	-45			V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E=-100\mu A, I_C=0mA$	-6			V
Collector cutoff current	$I_{CBO}$	$V_{CB}=-40V$			-100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB}=-5V$			-100	nA
Collector-emitter saturation voltage <sup>c</sup>	$V_{CE(sat)}$	$I_C=-2A, I_B=-200mA$		-0.2	-0.5	V
Base-emitter saturation voltage <sup>c</sup>	$V_{BE(sat)}$	$I_C=-2A, I_B=-200mA$		-1.0	-1.5	V
DC current gain <sup>c</sup>	$h_{FE}$	$I_C=-1A, V_{CE}=-2V$	100	200	320	

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

**Output characteristics**

**Transfer characteristics**

**DC current gain**

**C-E saturation voltage vs. Collector current**

**Power Derating**

**Safe operating area**

**Transient thermal response (Junction-to-Ambient)**


1. Duty Cycle,  $D = \frac{t_1}{t_2}$
2.  $R_{thJA} = 42^\circ C/W$
3.  $T_{JM} - T_A = P_{CM} \times Z_{thJA} \times R_{thJA}$

**Package outline dimensions**
**PDFN3x2-8L**


Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.70	0.80	0.90
b	0.24	0.30	0.35
c	0.08	0.15	0.20
D	2.90	3.00	3.05
D1	1.52	1.62	1.72
E	1.90	2.00	2.10
E1	1.60	1.70	1.75
E2	1.07	1.17	1.27
e	0.65 BSC		
L	0.20	0.30	0.40
L1	0.00	—	0.10
L2	0.184MAX		
theta1	0°	5°	8°