WPT2N41

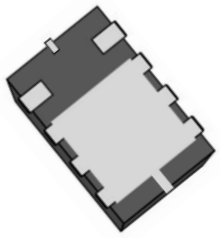
Single, PNP, -30V, -3A, Power Transistor

Http://www.sh-willsemi.com

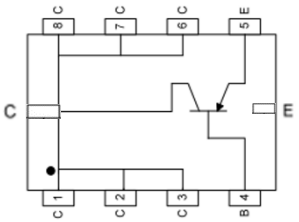
Descriptions

The WPT2N41 is PNP bipolar power transistor with very low saturation voltage. This device is suitable for use in charging circuit and power management.

Standard Product WPT2N41 is Pb-free.



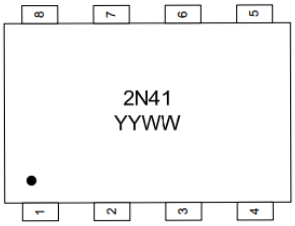
PDFN3x2-8L



Features

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

Pin configuration (Top view)



2N41 = Device Code
YY =Year
WW =Week

Marking

Applications

- Power Management
- Charging
- Other power management in portable equipments

Order information

Device	Package	Shipping
WPT2N41-8/TR	PDFN3*2-8L	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 [a]	I_C	-3	A
Continues collector current [b]		-2	A
Pulse collector current	I_{CM}	-6	A
Power dissipation [a]	P_D	3	W
Power dissipation [b]		1.7	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]	t ≤ 10 s	$R_{\theta JA}$	42	°C/W
	Steady State		90	
Junction-to-Ambient Thermal Resistance [b]	t ≤ 10 s	$R_{\theta JA}$	70	
	Steady State		120	
Junction-to-Case Thermal Resistance [d]	Steady State	$R_{\theta JC}$	15	

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

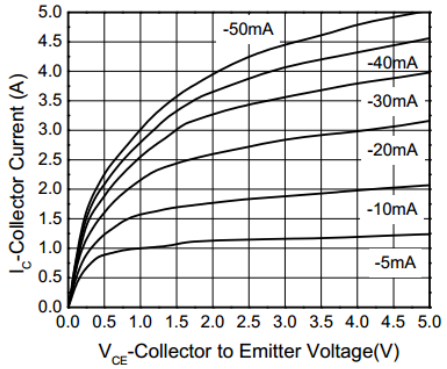
c Pulse width=300us,Duty Cycle<2%

d Surface mounted on FR4 Board using 1 square inch pad size, 2oz copper

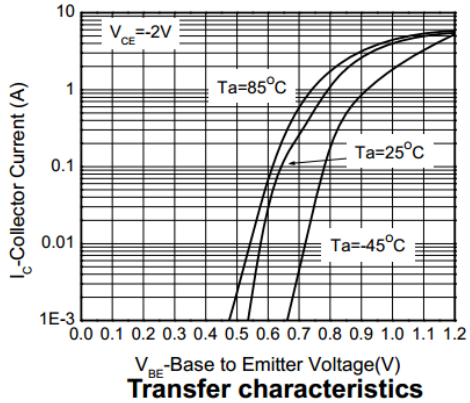
Electronics Characteristics (Ta=25°C, unless otherwise noted)

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=-100uA, I_E=0mA	-45			V
Emitter-base breakdown voltage	BV_{EBO}	I_E=-100uA, 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 [c]	Vce(sat)	I_C=-2A, I_B=-200mA		-0.2	-0.5	mV
Base-emitter saturation voltage [c]	Vbe(sat)	I_C=-2A, I_B=-200mA		-1.0	-1.5	V
DC current gain [c]	HFE	I_C=-1A , V_{CE}=-2V	100	200	320	

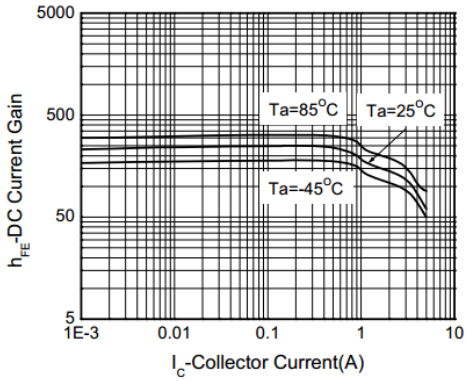
Typical Characteristics (Ta=25°C, unless otherwise noted)



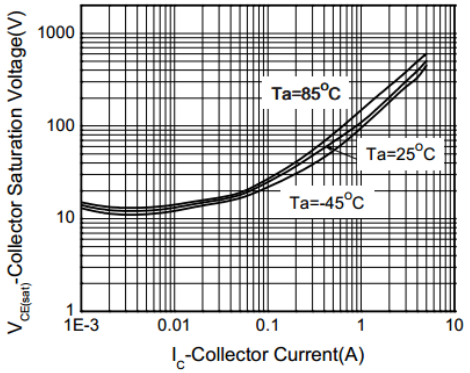
Output characteristics



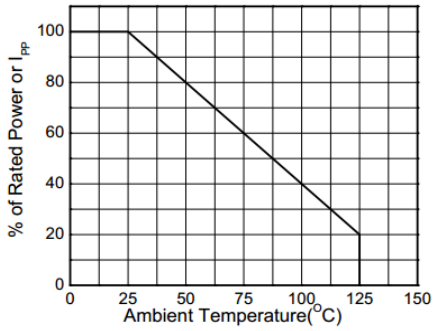
Transfer characteristics



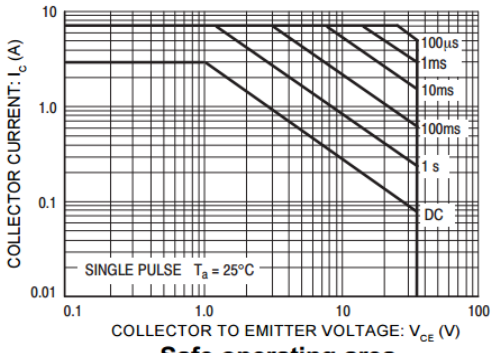
DC current gain



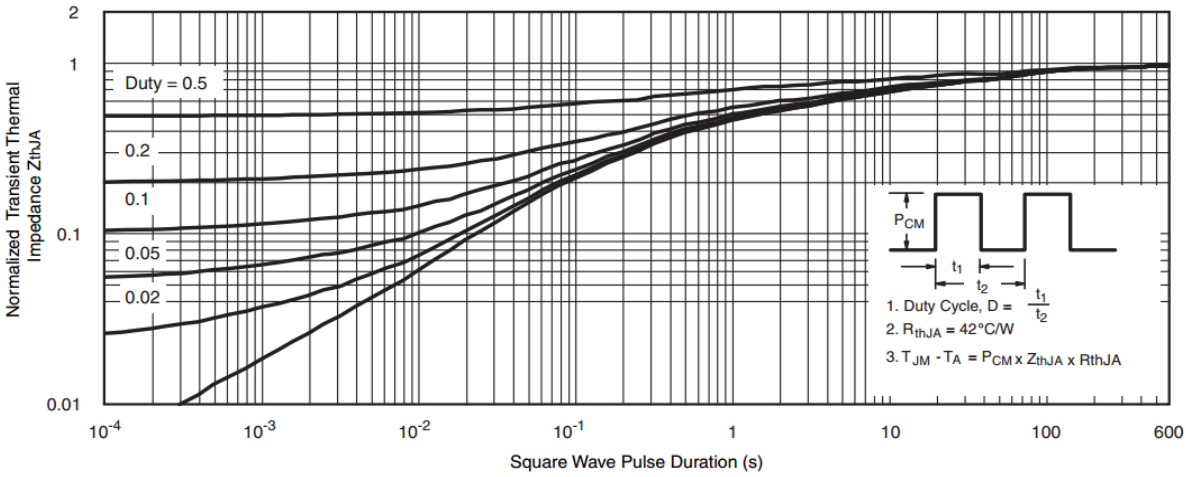
C-E saturation voltage vs. Collector current



Power Derating



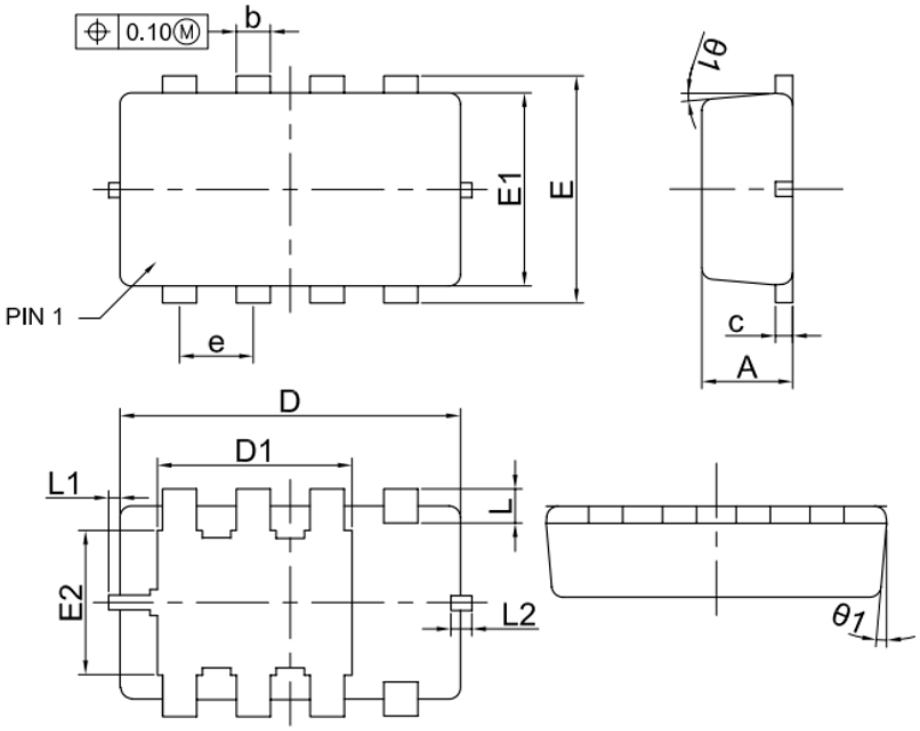
Safe operating area



Transient thermal response (Junction-to-Ambient)

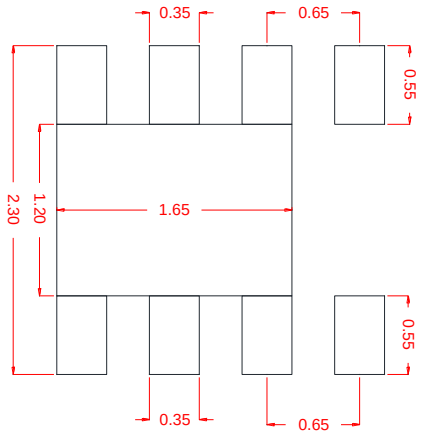
Package outline dimensions

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	
θ1	0°	5°	8°

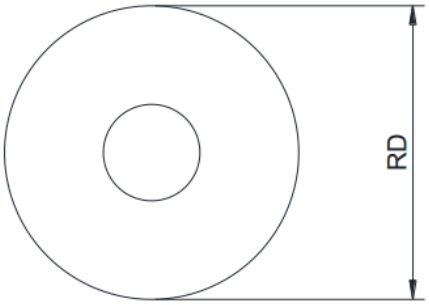
Recommend land pattern(Unit:mm)



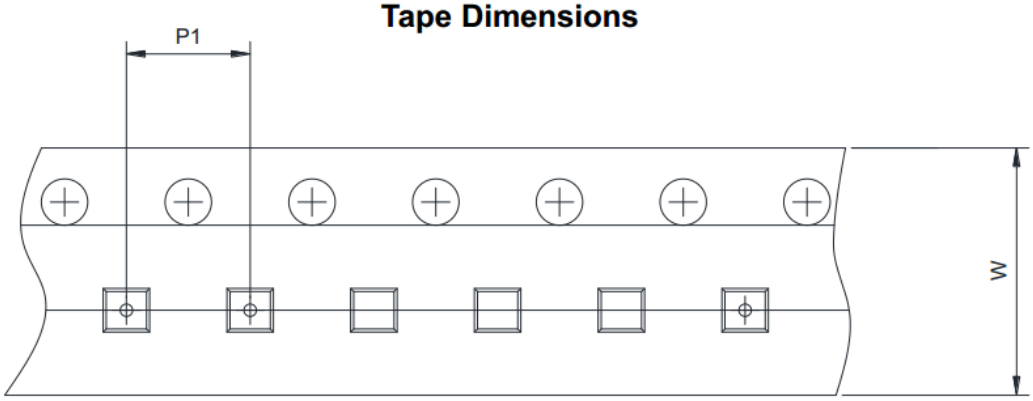
Notes: This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

TAPE AND REEL INFORMATION

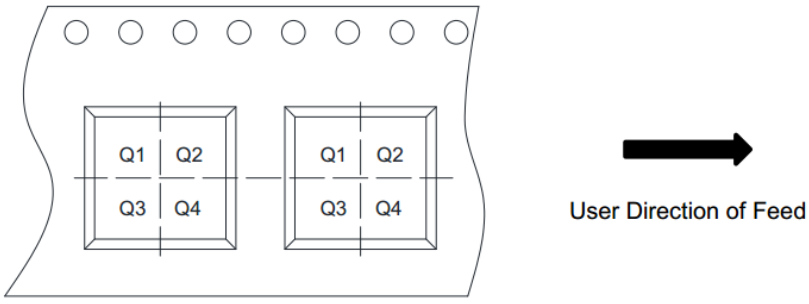
Reel Dimensions



Tape Dimensions



Quadrant Assignments For PIN1 Orientation In Tape



RD	Reel Dimension	☑ 7inch	☐ 13inch		
W	Overall width of the carrier tape	☑ 8mm	☐ 12mm	☐ 16mm	
P1	Pitch between successive cavity centers	☐ 2mm	☑ 4mm	☐ 8mm	
Pin1	Pin1 Quadrant	☐ Q1	☐ Q2	☑ Q3	☐ Q4