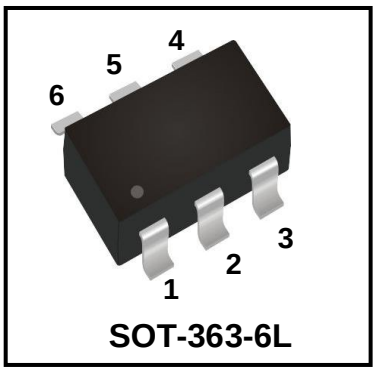
WT5451DW

Dual NPN+PNP Transistors

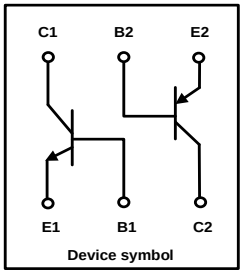
Features

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching
- 5551(NPN)+5401(PNP)

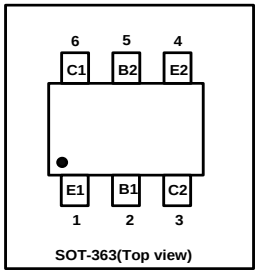


SOT-363-6L

Schematic & PIN Configuration



Device symbol



SOT-363(Top view)

Absolute Maximum Rating-TR1(NPN:P1&P2&P6)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	180	V
Collector Emitter Voltage	V_{CEO}	160	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	0.2	A

Absolute Maximum Rating-TR2(PNP:P3&P4&P5)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-160	V
Collector Emitter Voltage	V_{CEO}	-150	V
Emitter Base Voltage	V_{EBO}	-6	V
Collector Current Continuous	I_C	-0.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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Electrical Characteristics of TR1(NPN) (Tamb=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	180	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	160	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 120V, I_E = 0	-	-	50	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 4V, I_C = 0	-	-	50	nA
DC Current Gain	$h_{FE(1)}$	V_{CE} = 5V, I_C = 1mA	80	-	-	
	$h_{FE(2)}$	V_{CE} = 5V, I_C = 10mA	100	-	300	
	$h_{FE(3)}$	V_{CE} = 5V, I_C = 50mA	30	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1mA	-	-	0.15	V
		I_C = 50mA, I_B = 5mA	-	-	0.20	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 10mA, I_B = 1mA	-	-	1.00	V
		I_C = 50mA, I_B = 5mA	-	-	1.00	V
Transition Frequency	f_T	V_{CE}=10V,I_C=10mA, f=100MHz	100	-	300	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	-	-	6	pF

Electrical Characteristics of TR2(PNP) (Tamb=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -100μA, I_E = 0	-160	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-150	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -10μA, I_C = 0	-5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -120V, I_E = 0	-	-	-50	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = -4V, I_C = 0	-	-	-50	nA
DC Current Gain	$h_{FE(1)}$	V_{CE} = -5V, I_C = -1mA	50	-	-	
	$h_{FE(2)}$	V_{CE} = -5V, I_C = -10mA	100	-	300	
	$h_{FE(3)}$	V_{CE} = -5V, I_C = -50mA	50	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -10mA, I_B = -1mA	-	-	-0.2	V
		I_C = -50mA, I_B = -5mA	-	-	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = -10mA, I_B = -1mA	-	-	-1	V
		I_C = -50mA, I_B = -5mA	-	-	-1	V
Transition Frequency	f_T	V_{CE}= -5V,I_C= -10mA,f=30MHz	100	-	-	MHz

Typical Characteristics of TR1(NPN)

Figure 1.Static Characteristics

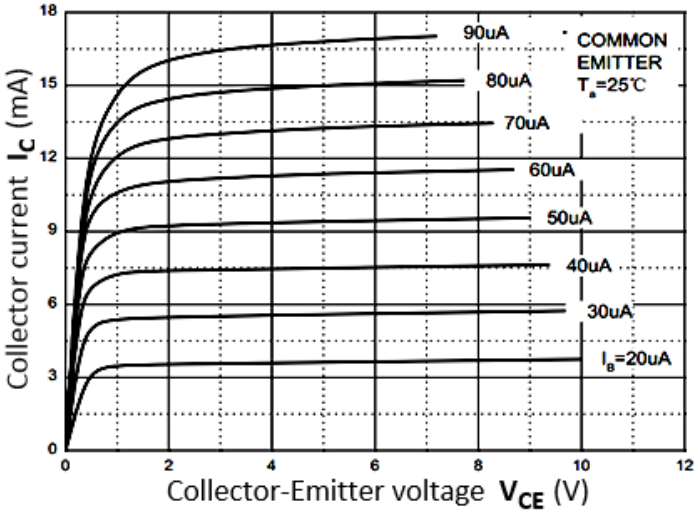


Figure 2. h_{FE} vs. I_C

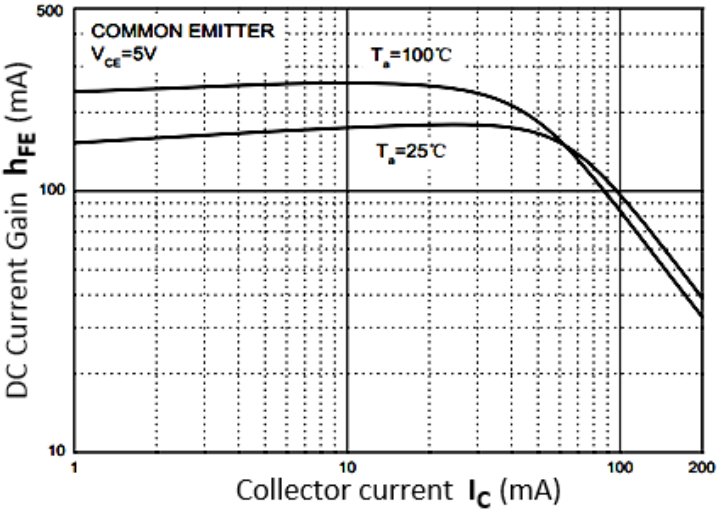


Figure 3. $V_{BE(sat)}$ vs. I_C

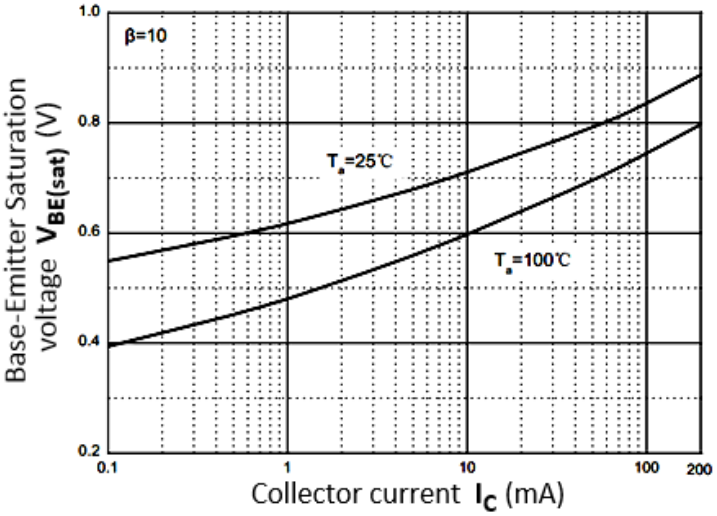


Figure 4. $V_{CE(sat)}$ vs. I_C

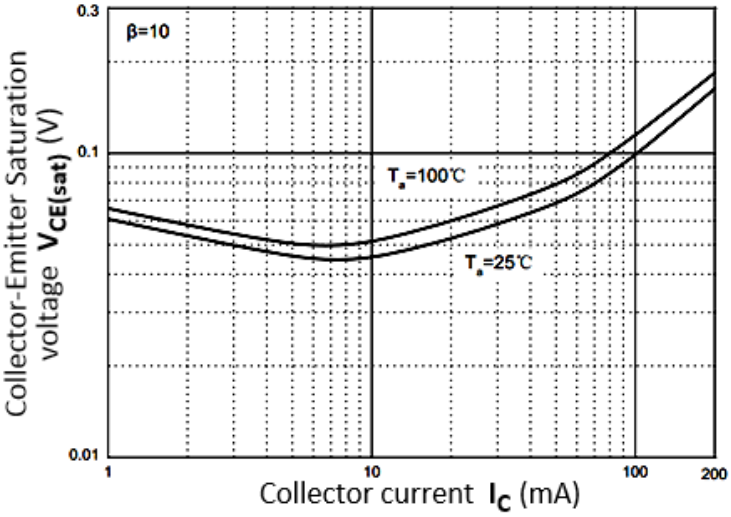


Figure 5. I_C vs. V_{BE}

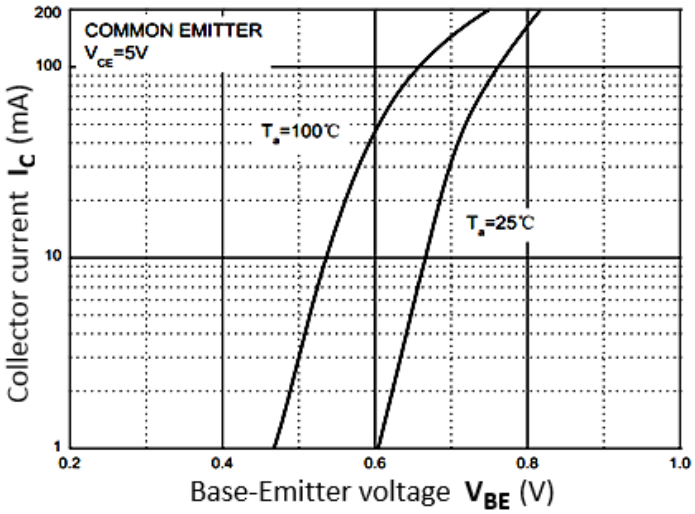
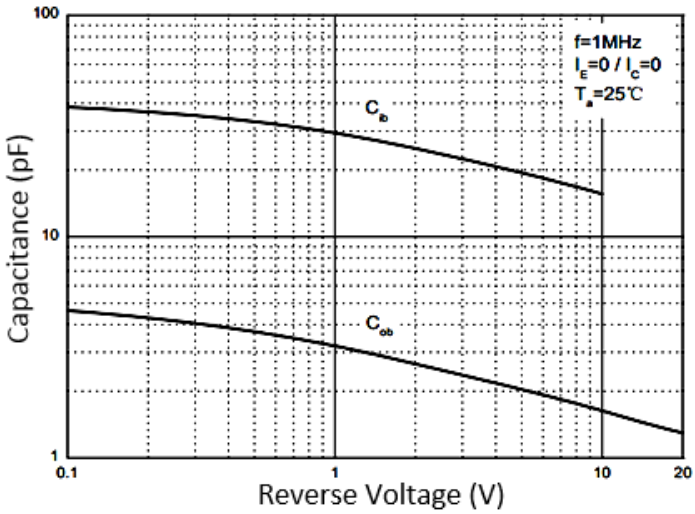


Figure 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}



Typical Characteristics of TR2(PNP)

Figure 1. Static Characteristics

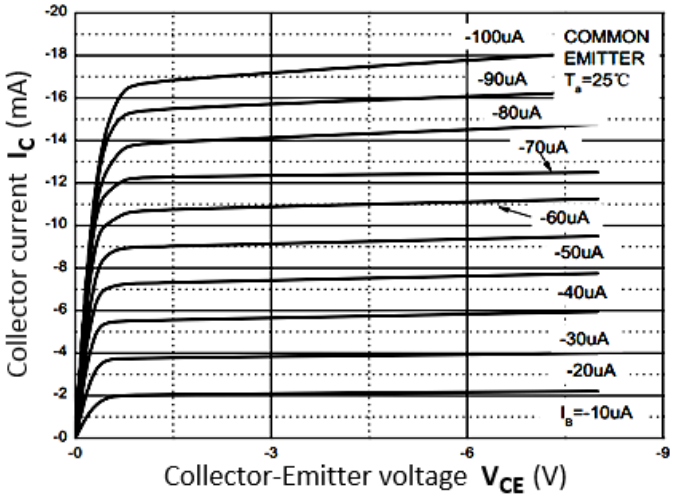


Figure 2. h_{FE} vs. I_C

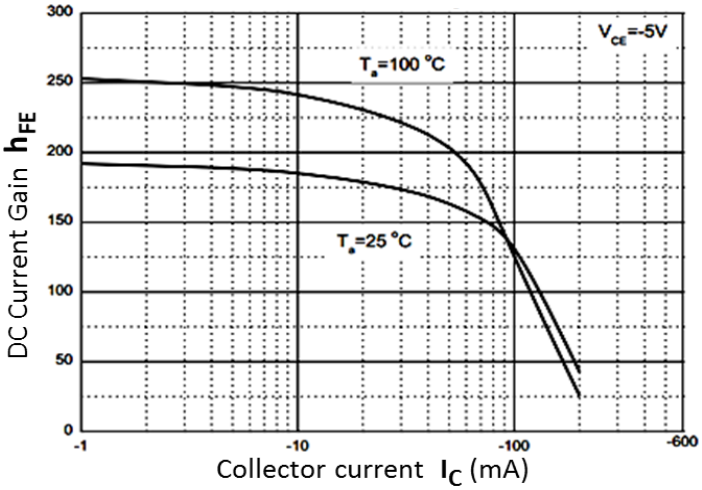


Figure 3. $V_{BE(sat)}$ vs. I_C

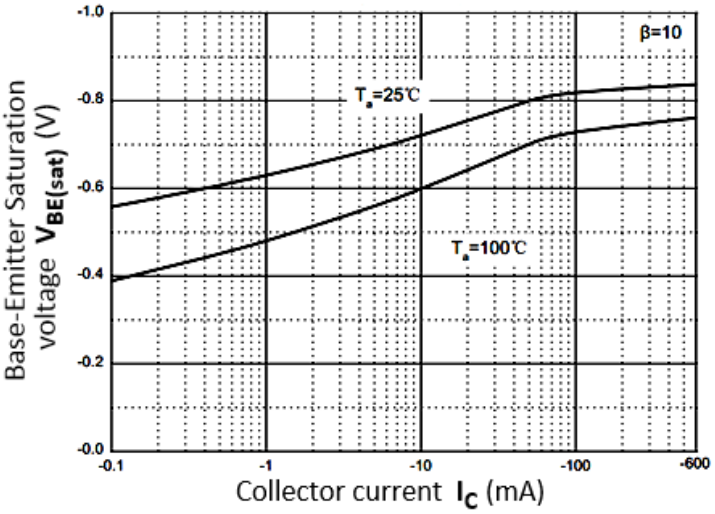


Figure 4. $V_{CE(sat)}$ vs. I_C

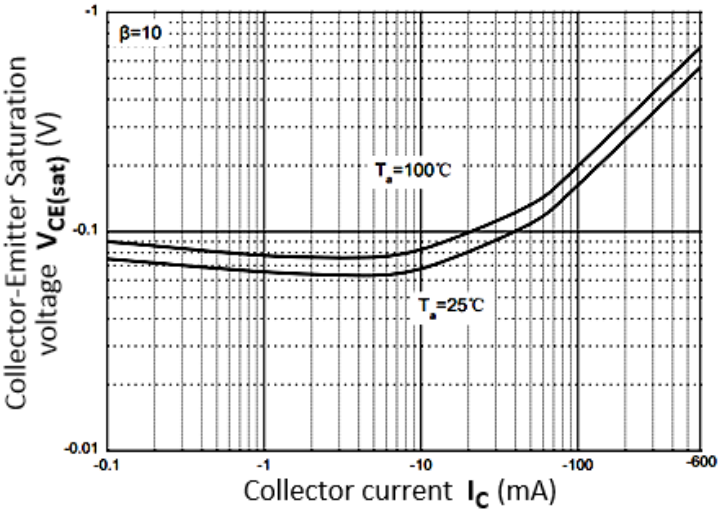


Figure 5. I_C vs. V_{BE}

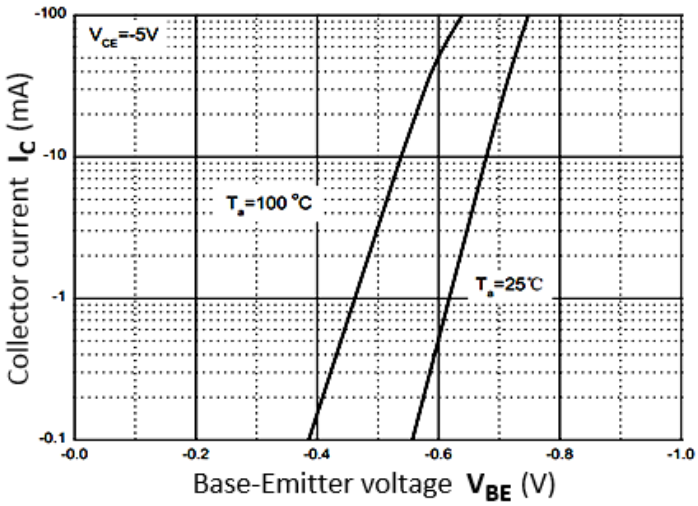
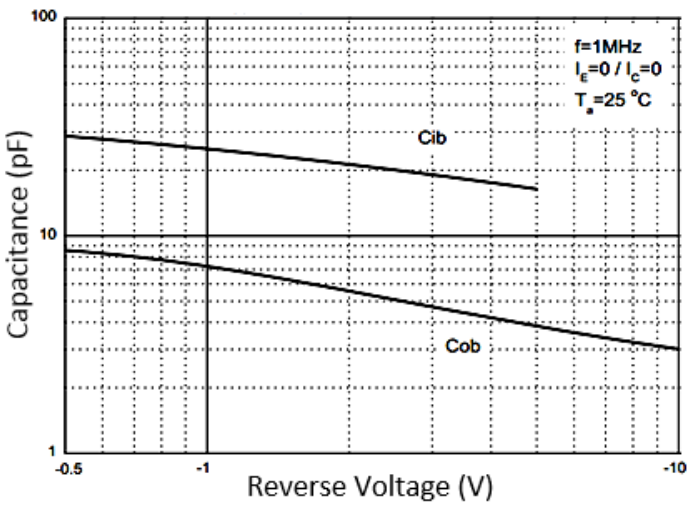
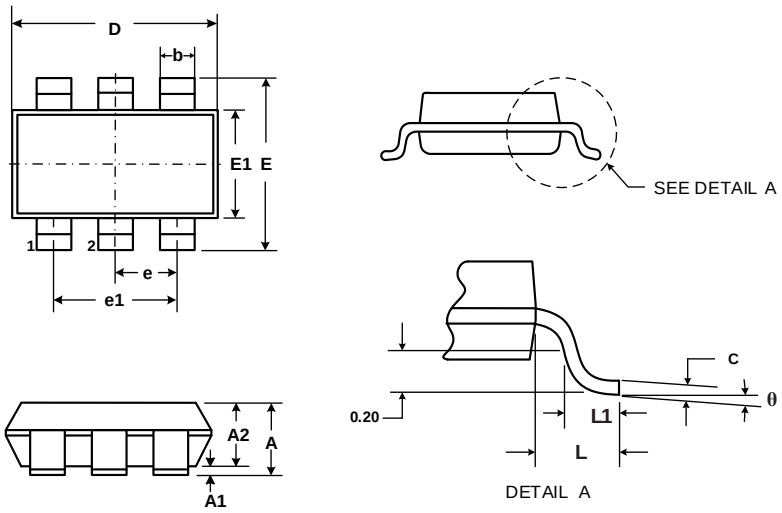


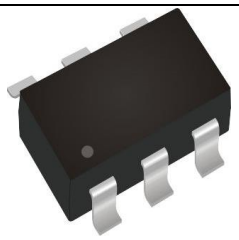
Figure 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}



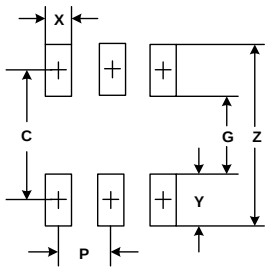
Outline Drawing – SOT-363-6L

PACKAGE OUTLINE





DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E1	1.150	1.350	0.045	0.053
E	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	``0°	8°

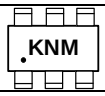


DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.110	2.79
G	0.043	1.09
C	0.076	1.94
P	0.026 TYP	0.65 TYP
X	0.016	0.40
Y	0.033	0.85

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WT5451DW
Marking Code	

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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WAYON website: **http://www.way-on.com**

For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.