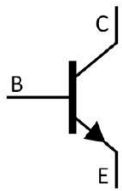


Rev. H Oct.-2018

WR0553 QSQ Silicon NPN transistor in a TO-220 Plastic Package.

WLS65
Complement to TIP32.

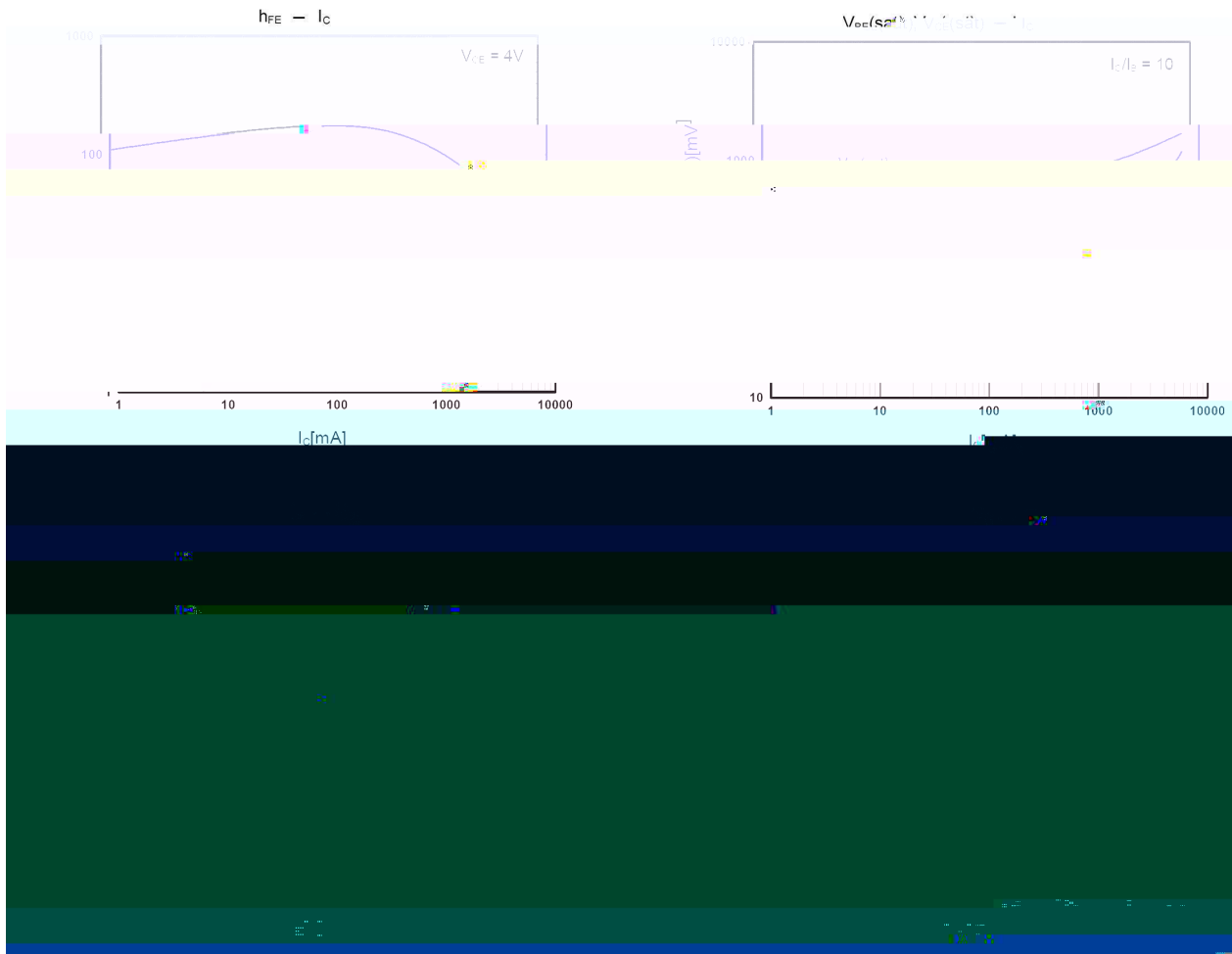
Medium power linear switching applications.



PIN1 Base PIN 2 Collector PIN 3 Emitter

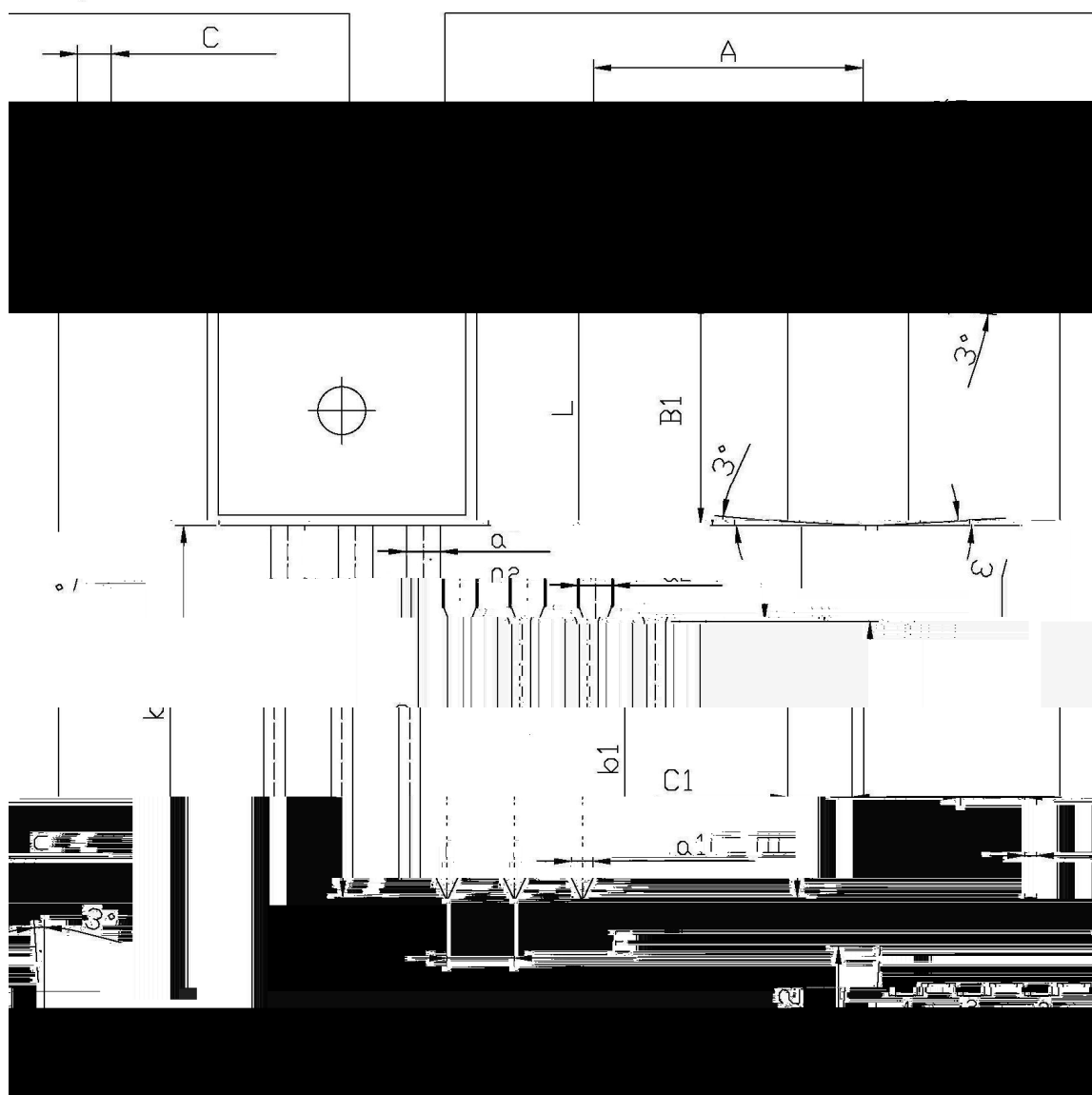
Parameter	Symbol	Rating				Unit
		TIP31	TIP31A	TIP31B	TIP31C	
Collector to Base Voltage	V_{CBO}	40	60	80	100	V
Collector to Emitter Voltage	V_{CEO}	40	60	80	100	V
Emitter to Base Voltage	V_{EBO}	5.0				V
Collector Current - Continuous	I_C	3.0				A
Peak Collector Current	I_{CP}	5.0				A
Base Current - Continuous	I_B	1.0				A
Collector Power Dissipation	P_C	2.0				W
Collector Power Dissipation	$P_C (T_C=25^\circ C)$	40				W
Junction Temperature	T_j	150				
Storage Temperature Range	T_{sag}	-55 150				

Parameter	Symbol		Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	TIP31	$I_C=30mA \quad I_B=0$	40			V
		TIP31A		60			
		TIP31B		80			
		TIP31C		100			
Collector Cut-Off Current	I_{CEO}	TIP31 TIP31A	$V_{CE}=30V \quad I_B=0$			0.3	mA
		TIP31B TIP31C	$V_{CE}=60V \quad I_B=0$			0.3	
Collector Cut-Off Current	I_{CES}	TIP31	$V_{CE}=40V \quad V_{EB}=0$			200	μA
		TIP31A	$V_{CE}=60V \quad V_{EB}=0$			200	
		TIP31B	$V_{CE}=80V \quad V_{EB}=0$			200	
		TIP31C	$V_{CE}=100V \quad V_{EB}=0$			200	
Emitter Cut-Off Current	I_{EBO}		$V_{EB}=5.0V \quad I_C=0$			1.0	mA
DC Current Gain	$h_{FE(1)}$		$V_{CE}=4.0V \quad I_C=3.0A$	10		70	
	$h_{FE(2)}$		$V_{CE}=4.0V \quad I_C=1.0A$	25			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$		$I_C=3.0A \quad I_B=375mA$			1.2	V
Base to Emitter Voltage	V_{BE}		$I_C=3.0A \quad V_{CE}=4.0V$			1.8	V
Transition Frequency	f_T		$V_{CE}=10V \quad I_C=500mA$	3.0			MHz

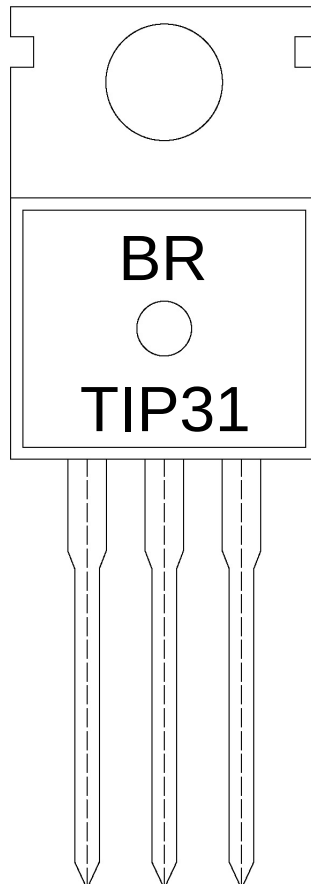


單位：

TO-220



Dimensions in Metric Units			Dimensions in Imperial Units		
Symbol	Min	Max	Symbol	Min	Max
Δ_{C}	9.8	10.2	C	1.2	1.4
B ₁	9.0	9.4	B ₂	6.2	6.7
C ₁	2.2	2.6	C ₂	0.4	0.6
A ₁	2.34	2.74	A ₂	4.3	4.7
L ₁	1.25	1.45	L ₂	0.8	0.9



BR

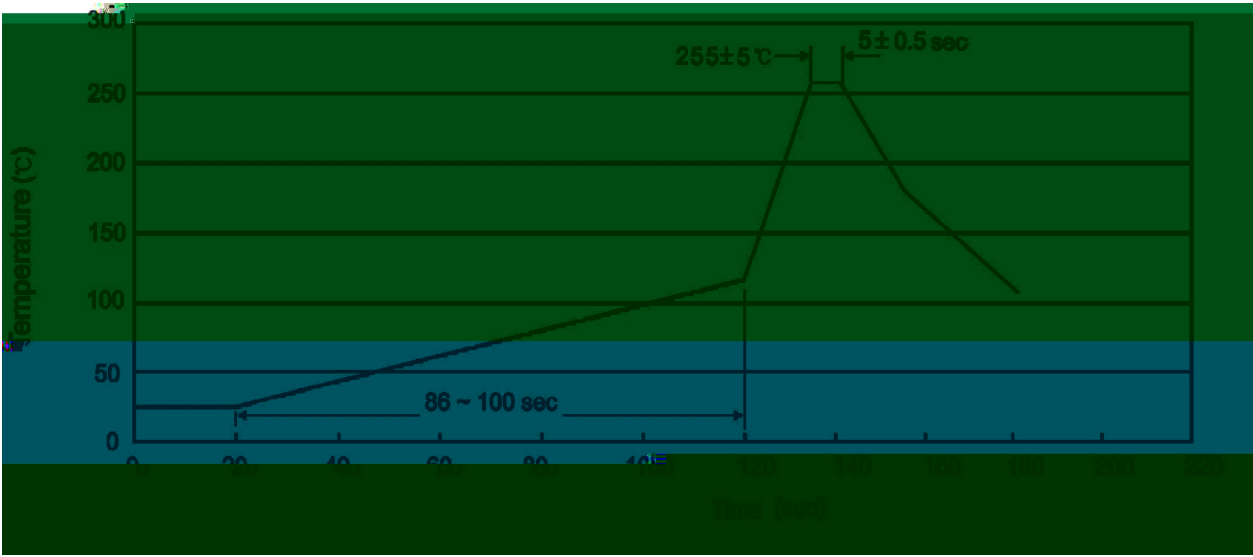
TIP31

Note:

BR: Company Code

TIP31: Product Type.

****: Lot No. Code, code change with Lot No.



- 1

25 150%

60 90sec;

2

255 ± 5%

5 ± 0.5sec;

3

2 10%/sec.
- Note:

1.Preheating:25~150%, Time:60~90sec.

2.Peak Temp.:255 ± 5%, Duration:5 ± 0.5sec.

3. Cooling Speed: 2~10%/sec.

270 ± 5%

10 ± 1 sec.

Temp.:270±5

Time:10±1 sec

/ BULK

Package Type	Units					Dimension		(unit mm ³)

/ TUBE

Package Type	Units					Dimension		(unit mm ³)