

/ Descriptions

WR0<50 P QSQ Silicon NPN transistor in a TO-92LM Plastic Package.

/ Features

NWD45 : 7
Complementary to KTA1274.

/ Applications

General purpose amplifier application.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	O	Y
h_{FE} Range	70~140	120~240

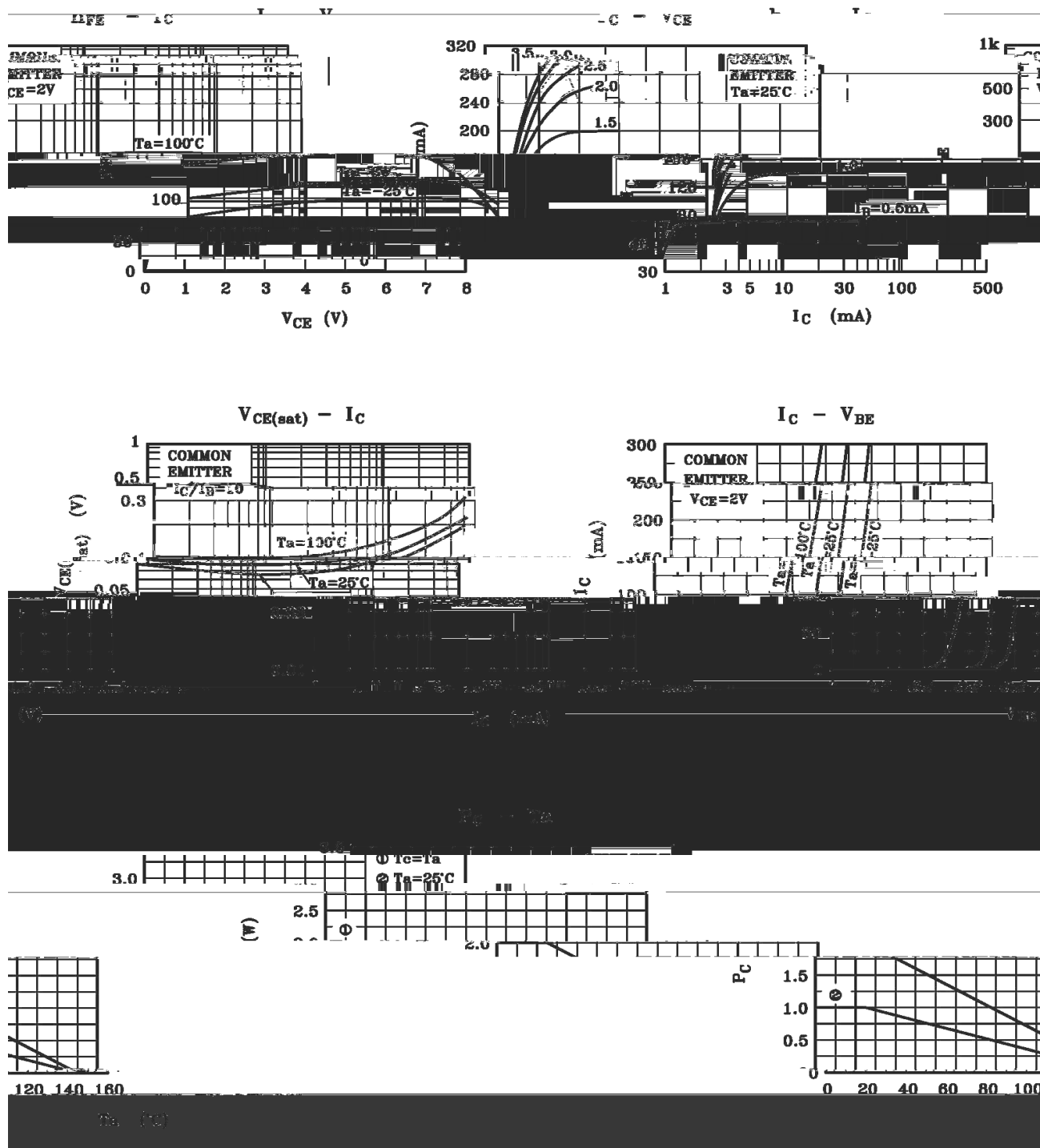
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	80	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	400	mA
Base Current - Continuous	I_E	-400	mA
Collector Power Dissipation	P_C	1.0	W
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=5mA$ $I_B=0mA$	80			V
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=50mA$	70		240	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=200mA$	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=200mA$ $I_B=20mA$			0.4	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=2.0V$ $I_C=5mA$	0.55		0.8	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=10mA$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $f=1MHz$		10		pF

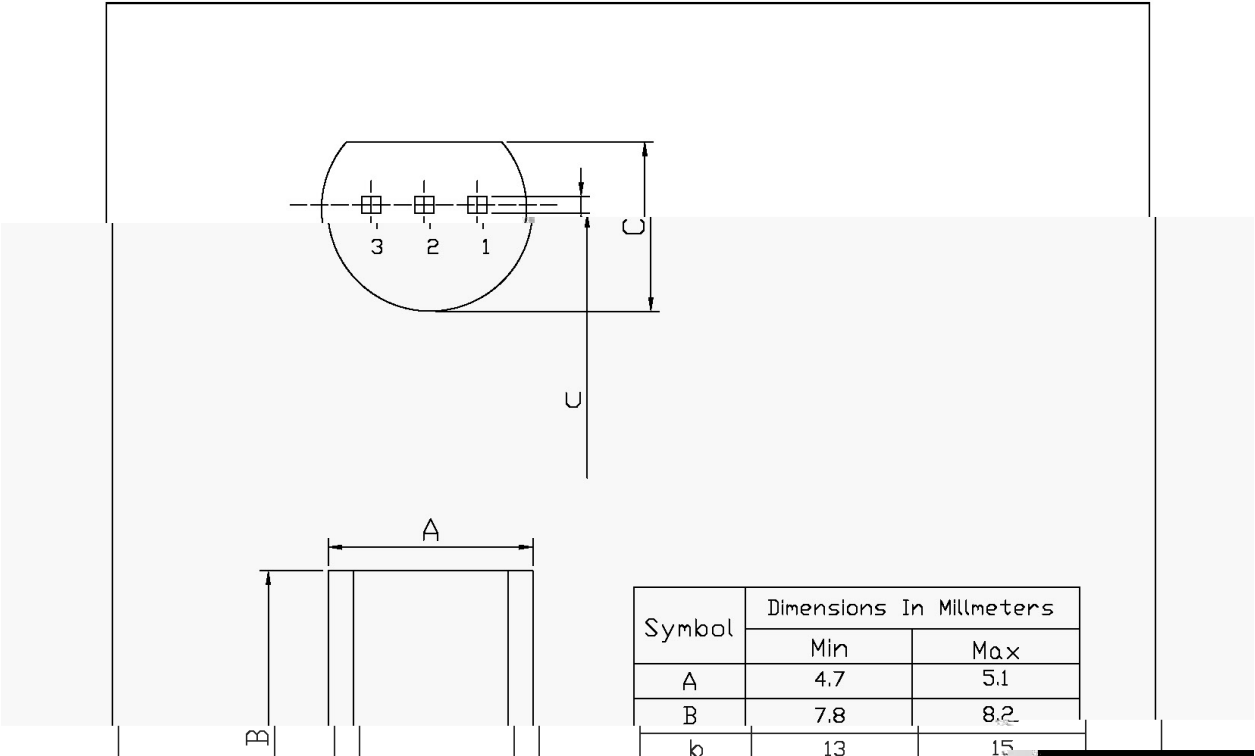
/ Electrical Characteristic Curve



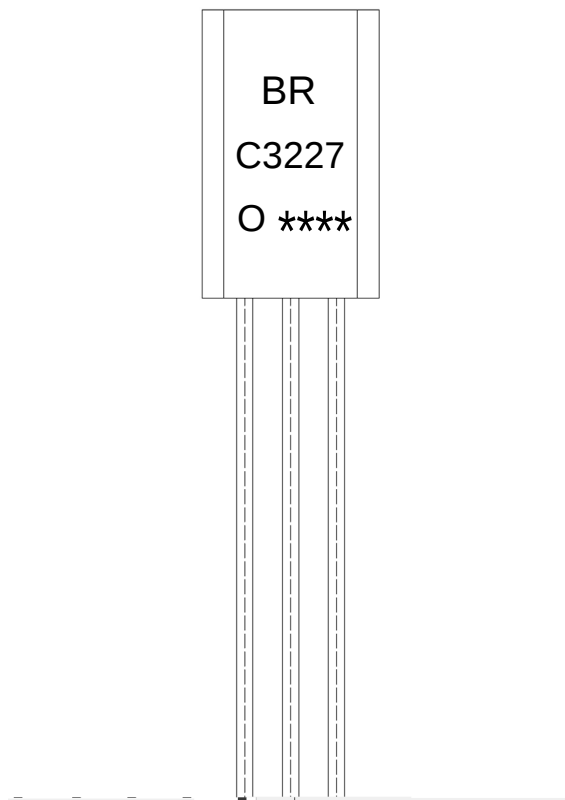
/ Package Dimensions

T0-92LM

Unit: mm



/ Marking Instructions



EU:

F655:

R: k_{IH}

Note:

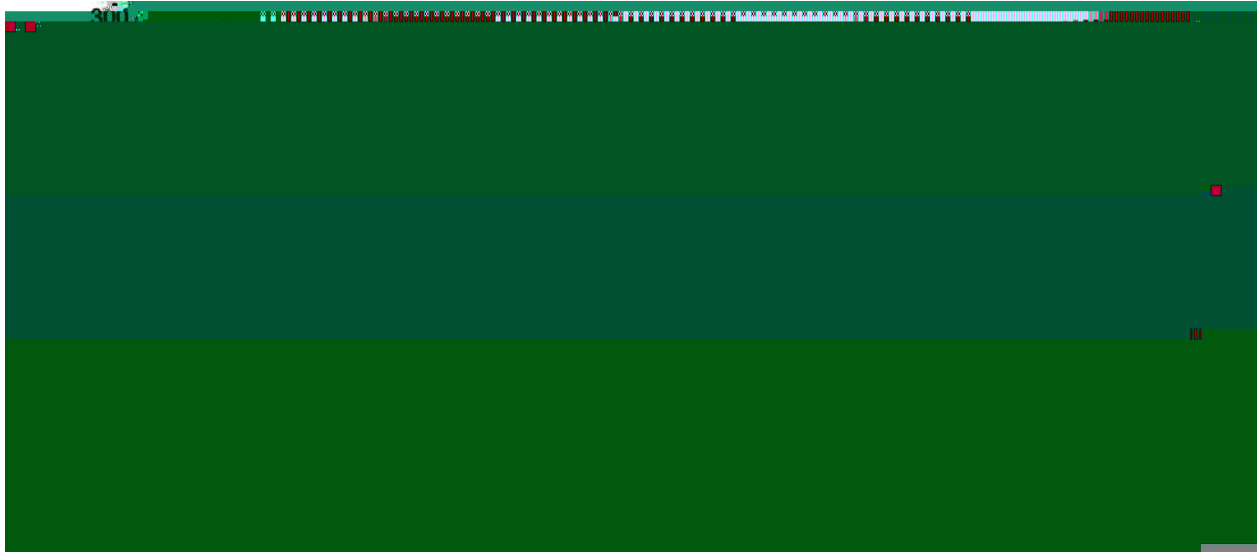
BR: Company Code.

C3227: Product Type.

O: h_{FE} Classifications Symbol

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

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-----|------|----|----------|---|
| 1 | 25 | 150% | 60 | 90sec; | 1.Preheating:25~150%, Time:60~90sec. |
| 2 | 255 | ±5% | 5 | ±0.5sec; | 2.Peak Temp.:255±5%, Duration:5±0.5sec. |
| 3 | | | 2 | 10%/sec. | 3. Cooling Speed: 2~10%/sec. |

/ Resistance to Soldering Heat Test Conditions

270 ± 5% 10 ± 1 sec. Temp.:270 ± 5% Time:10 ± 1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-92LM	1,000	8	8,000	5	40,000	135×190	237×172×102	560×245×195

/ AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box 纸带层/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Inner Box 盒	Outer Box 箱
TO-92LM	2,500	1	100	10	25,000	328×230×42	小箱 480×346×235 大箱 547×407×268

/ Notices