/ Descriptions

Silicon PNP transistor in a TO-92LM Plastic Package.

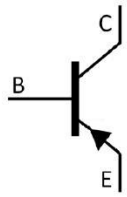
/ Features

High V_{CBO}, low $V_{CE(sat)}$,high speed switching.

/ Applications

DC-DC converter, low power switching regulator, high voltage 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	60~120	100~200

/ Absolute Maximum Ratings(Ta=25)

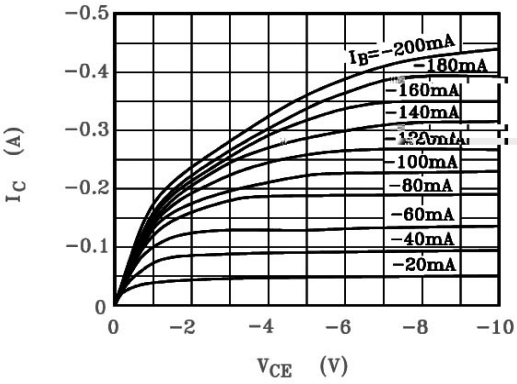
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-400	V
Collector to Emitter Voltage	V_{CEO}	-400	V
Emitter to Base Voltage	V_{EBO}	-7.0	V
Collector Current - Continuous	I_C	-500	mA
Collector Power Dissipation	P_C	1.0	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

/ Electrical Characteristics(Ta=25)

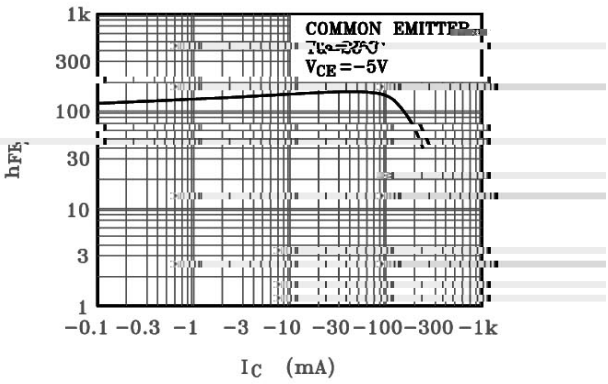
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=-1.0mA I_B=0	-400			V
Collector to Base Breakdown Voltage	V_{CBO}	I_C=-100 A I_E=0	-400			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=-100 A I_C=0	-7.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-400V I_E=0			-10	A
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-5.0V I_C=0			-10	A
DC Current Gain	h_{FE}	V_{CE}=-5.0V I_C=-100mA	60		200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-100mA I_B=-10mA			-1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-100mA I_B=-10mA			-1.2	V
Turn-On Time	t_{on}	I_C=-100mA R_L=1.5K I_{B1}=-10mA I_{B2}=20mA V_{CC}=-150V			1.0	s
Storage Time	t_{stg}				4.0	
Turn-Off Time	t_{ff}				1.0	

/ Electrical Characteristic Curve

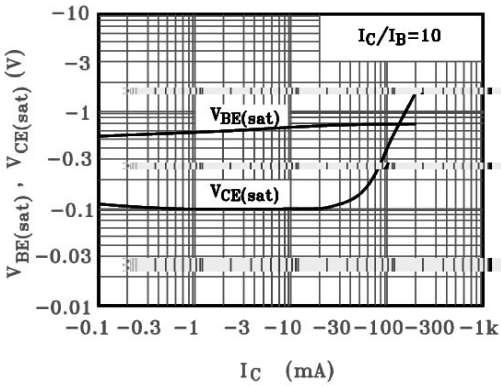
I_C – V_{CE}



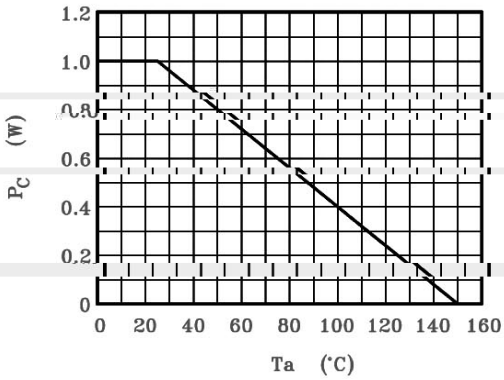
h_{FE} – I_C



$V_{BE(sat)}$, $V_{CE(sat)}$ – I_C

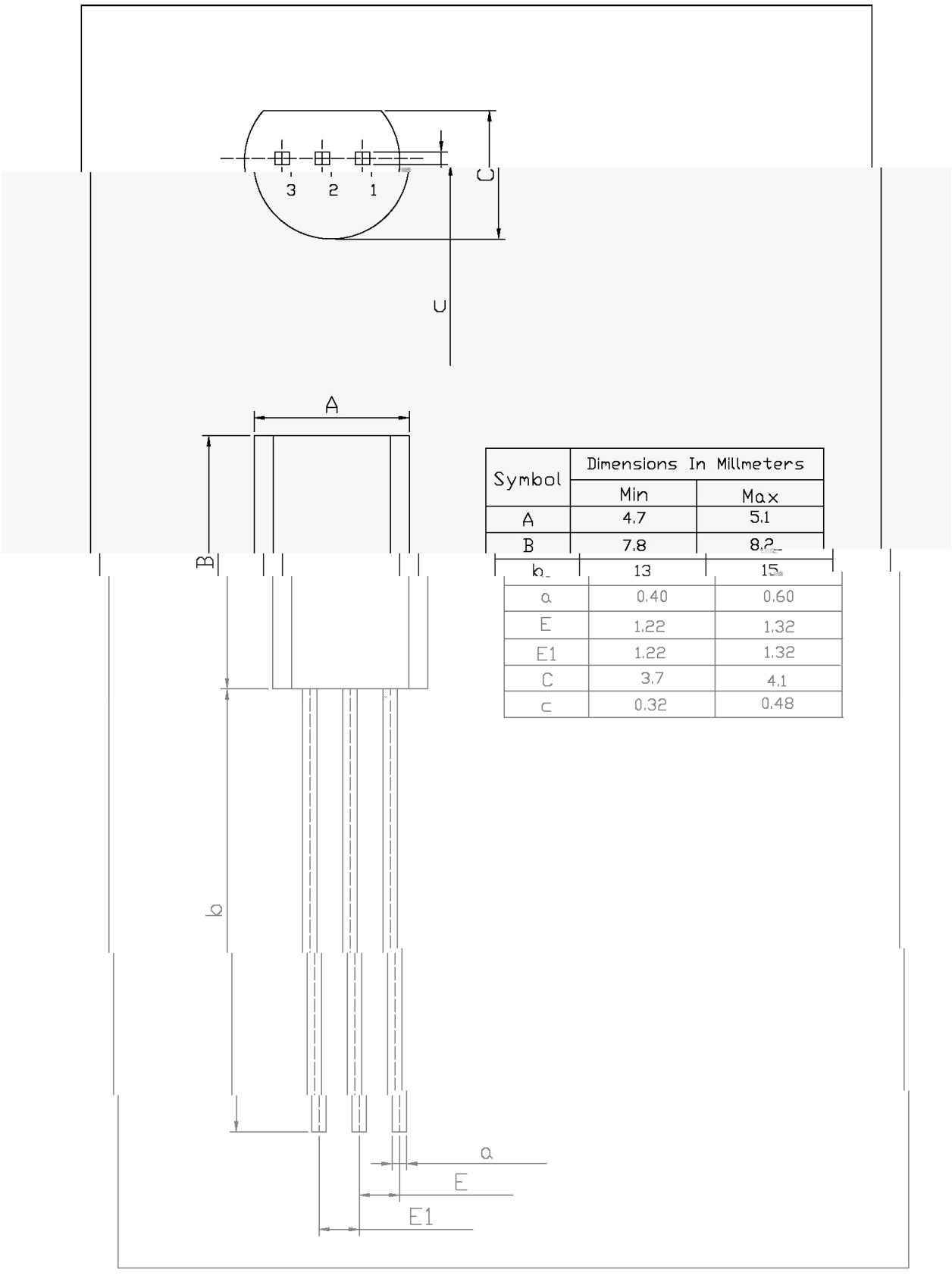


P_C – Ta



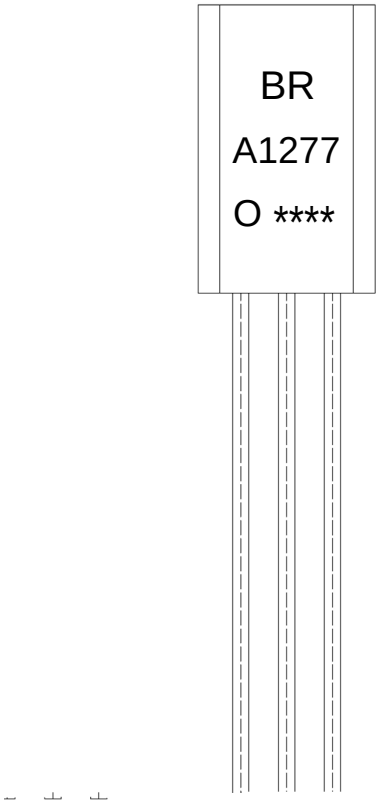
/ Package Dimensions

TO-92LM Unit: mm



Symbol	Dimensions In Millmeters	
	Min	Max
A	4.7	5.1
B	7.8	8.2
b	13	15
a	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
C	3.7	4.1
c	0.32	0.48

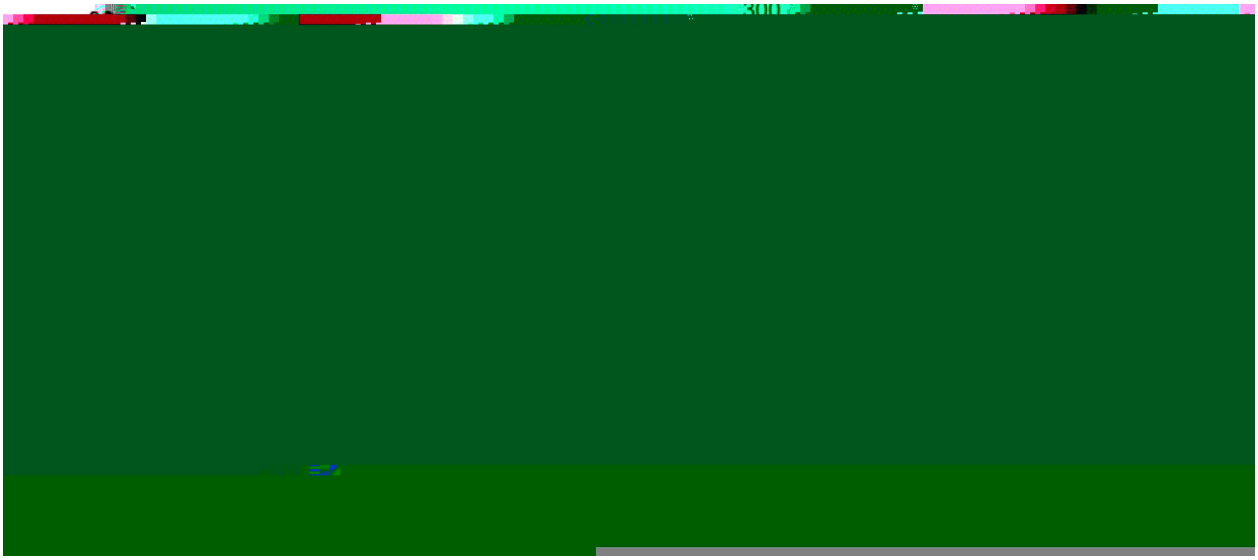
/ Marking Instructions



Note:

BR:	Company Code.
A1277:	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	Units					Dimension		(unit mm3)
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-92LM	1,000	8	8,000	5	40,000	135×190	237×172×102	560×245×195

/ AMMO

Package Type	Units					Dimension	(unit mm3)
	Units/tape /	Tape/Inner Box /	Rows/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Inner Box	Outer Box
TO-92LM	2,500	1	100	10	25,000	328×230×42	480×346×235 547×407×268

/ Notices