

**Description**

Double silicon NPN transistor in a SOT-363 Plastic Package

**Features**

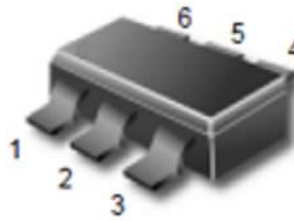
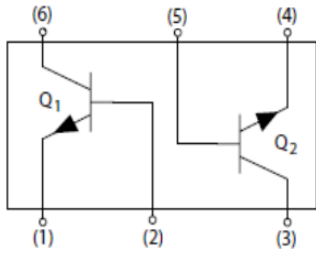
- Low current
- Low voltage
- Halogen-free Product

**Applications**

General purpose amplifier and switching

Symbol	Parameter	Max	Unit
$V_{CE0}$	collector-emitter voltage	40	V
$I_c$	collector current (DC)	200	mA

**Equivalent Circuit & Pinning**



PIN 1、4: Emitter

PIN 2、5: Base

PIN 3、6: Collector

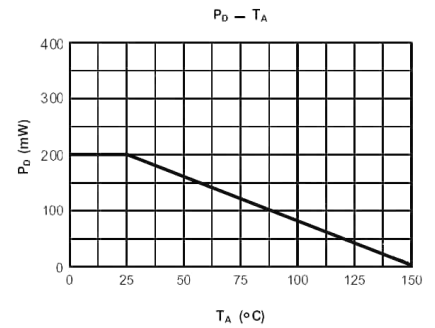
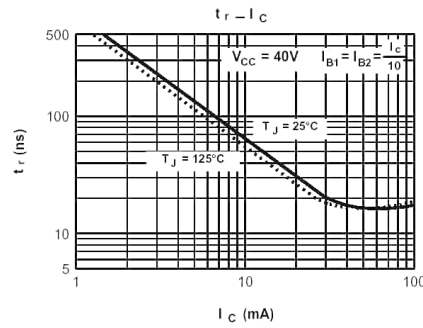
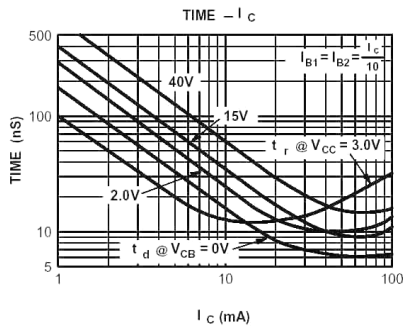
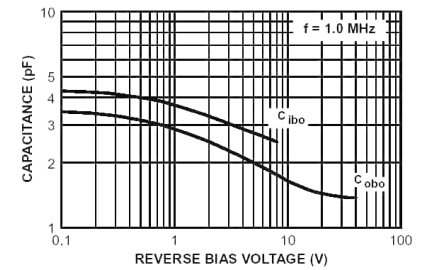
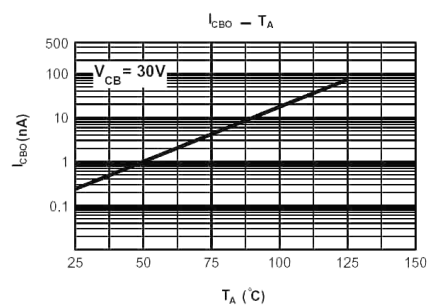
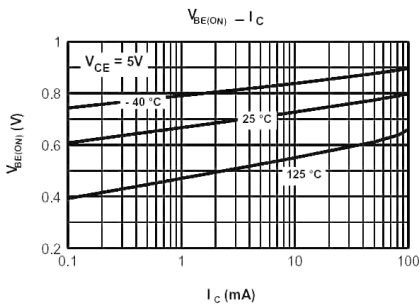
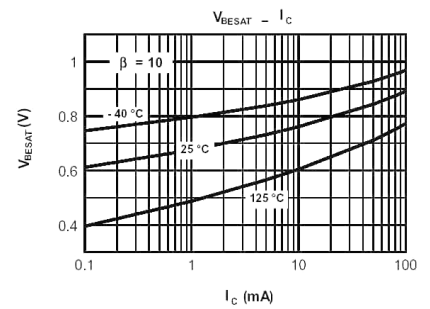
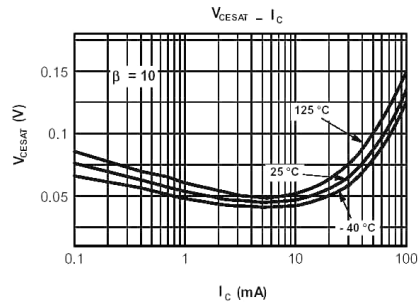
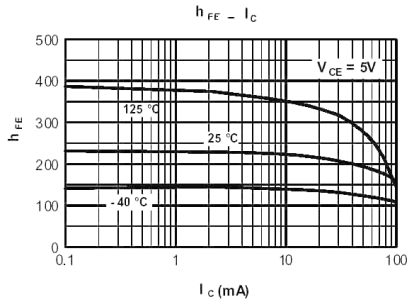
**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	40	V
Emitter to Base Voltage	$V_{EBO}$	6.0	V
Collector Current	$I_C$	200	mA
Collector Power Dissipation	$P_C$	200	mW
	* $P_C$	350	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

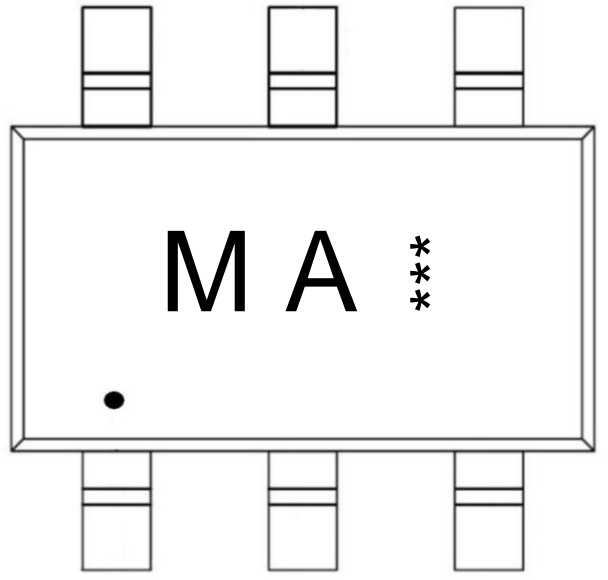
**Electrical Characteristic (Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=10\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$ $I_B=0$	40			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=10\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$			0.05	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=3.0V$ $I_C=0$			0.05	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=10mA$	10		300	
	$h_{FE(2)}$	$V_{CE}=1.0V$ $I_C=100mA$	30			
	$h_{FE(3)}$	$V_{CE}=1.0V$ $I_C=50mA$	60			
	$h_{FE(4)}$	$V_{CE}=1.0V$ $I_C=1.0mA$	70			
	$h_{FE(5)}$	$V_{CE}=1.0V$ $I_C=0.1mA$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=10mA$ $I_B=1.0mA$			0.2	V
	$V_{CE(sat)(2)}$	$I_C=50mA$ $I_B=5.0mA$			0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=10mA$ $I_B=1.0mA$	0.6		0.85	V
	$V_{BE(sat)(2)}$	$I_C=50mA$ $I_B=5.0mA$			0.95	V
Transition Frequency	$f_T$	$V_{CE}=20V$ $I_C=10mA$ $f=100MHz$	30			MHz
Output Capacitance	$C_{ob}$	$V_{CB}=5.0V$ $f=1.0MHz$			4.0	pF
Storage Time	$t_{stg}$	$V_{CC}=3.0V$ $I_C=10mA$ $I_{B1}=-I_{B2}=1.0mA$			200	ns
Fall Time	$t_f$	$V_{CC}=3.0V$ $I_C=10mA$ $I_{B1}=-I_{B2}=1.0mA$			50	ns
Delay Time	$t_d$	$V_{CC}=3.0V$ $V_{BE}=0.5V$ $I_C=10mA$ $I_{B1}=1.0mA$			35	ns
Rise Time	$t_r$	$V_{CC}=3.0V$ $V_{BE}=0.5V$ $I_C=10mA$ $I_{B1}=1.0mA$			35	ns
Input Capacitance	$C_{ib}$	$V_{EB}=0.5V$ $f=1.0MHz$			8.0	pF

Electrical Characteristic Curve



Marking Instructions



Note:

- : "1" Pin
- MA: Product Type Code
- \*\*\*: Lot No. Code, code change with Lot No.

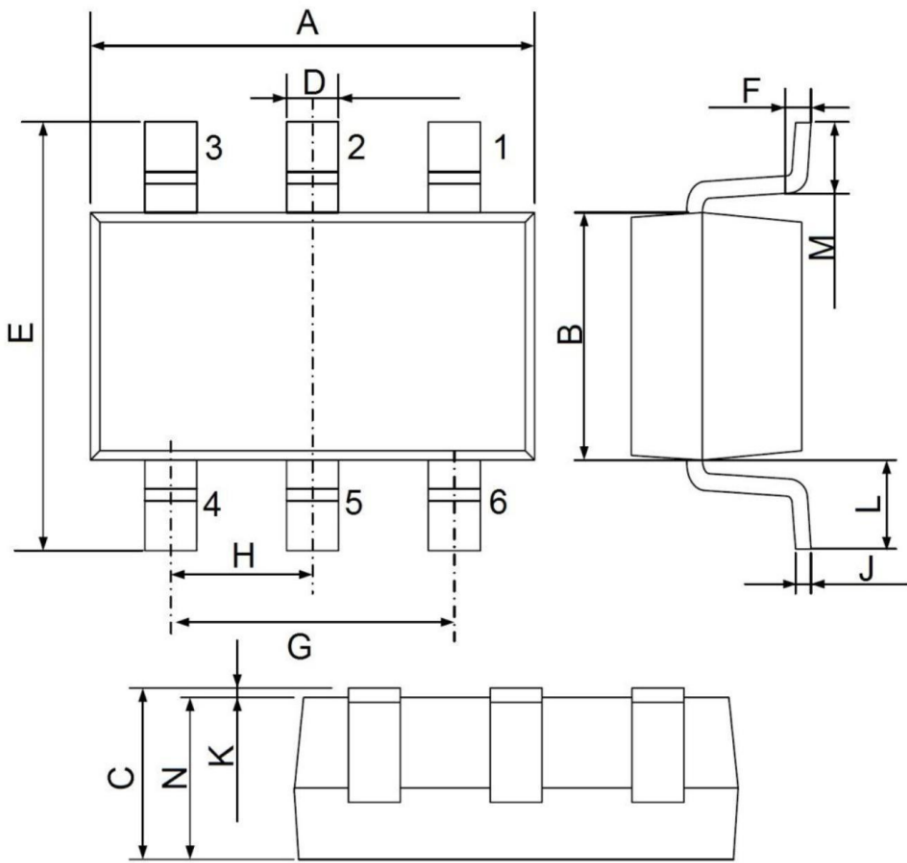
Packaging SPEC.

REEL INFORMATION

Package Type	Units					Dimension (unit: mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-363	3,000	10	30,000	6	180,000	7" x8	180×120×180	390×385×205

Package Outline Dimensions

# SOT-363-6L



UNIT: mm

DIM	MIN	MAX
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	1.95	2.25
F	0.20 Typ.	
G	1.20	1.40
H	0.65 Typ.	
J	0.08	0.15
K	0.00	0.10
L	0.525 Ref.	
M	0.26	0.46
N	0.90	1.10