

**Description**

Double silicon NPN transistor in a SOT-363 Plastic Package

**Features**

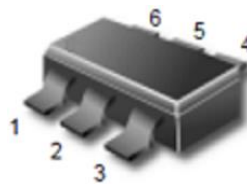
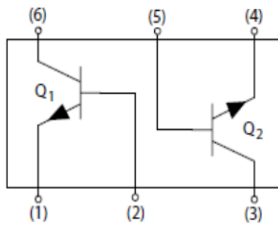
- Low current
- Low voltage
- Halogen-free Product

**Applications**

General purpose amplifier and switching

Symbol	Parameter	Max	Unit
$V_{CEO}$	collector-emitter voltage	40	V
$I_C$	collector current (DC)	600	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	$I_C$	600	mA
Power Dissipation	$P_D$	200	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=100\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$ $I_B=0$	40			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=100\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=50V$ $I_E=0$			0.1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=0.1mA$	20			
	$h_{FE(2)}$	$V_{CE}=1.0V$ $I_C=1mA$	40			
	$h_{FE(3)}$	$V_{CE}=1.0V$ $I_C=10mA$	80			
	$h_{FE(4)}$	$V_{CE}=1.0V$ $I_C=150mA$	100		300	
	$h_{FE(5)}$	$V_{CE}=2.0V$ $I_C=500mA$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=150mA$ $I_B=15mA$			0.4	V
	$V_{CE(sat)(2)}$	$I_C=500mA$ $I_B=50mA$			0.75	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=150mA$ $I_B=15mA$			0.95	V
	$V_{BE(sat)(2)}$	$I_C=500mA$ $I_B=50mA$			1.2	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $I_C=20mA$ $f=100MHz$	250			MHz
Output Capacitance	$C_{ob}$	$V_{CB}=5.0V$ $f=1.0MHz$			6.5	pF
Storage Time	$t_s$	$V_{CC}=30V$ $I_C=150mA$			225	ns
Fall Time	$t_f$	$I_{B1}=-I_{B2}=15mA$			30	ns
Delay Time	$t_d$	$V_{CC}=30V$ $V_{BE}=2V$			15	ns
Rise Time	$t_r$	$I_C=150mA$ $I_{B1}=15mA$			20	ns

Electrical Characteristic Curve

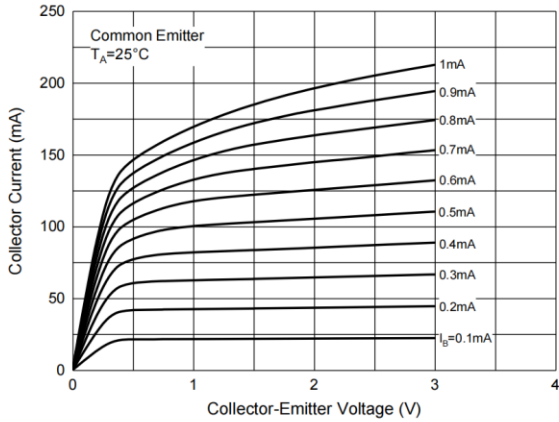


Fig. 1 - Static Characteristics

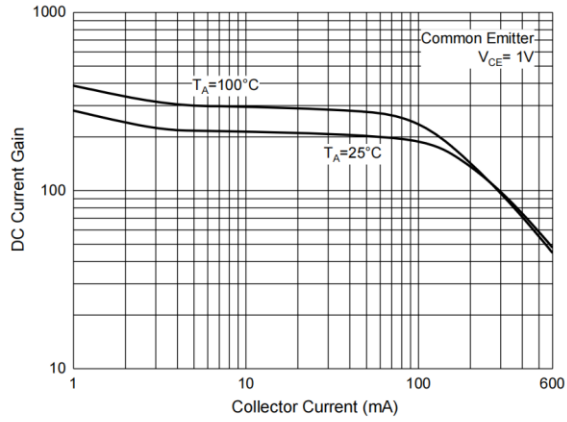


Fig. 2 - DC Current Gain Characteristics

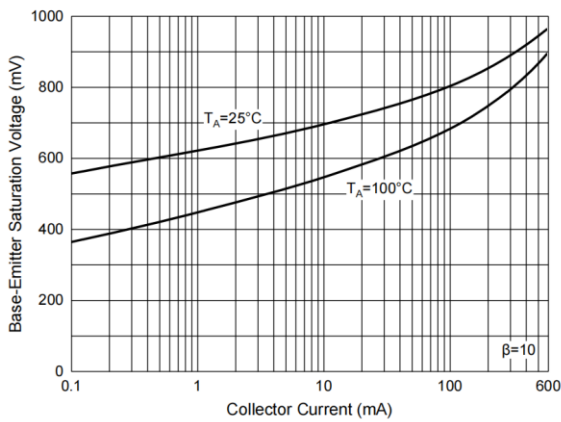


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

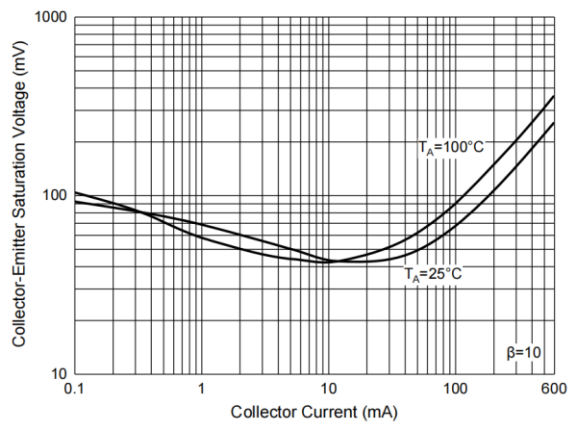


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

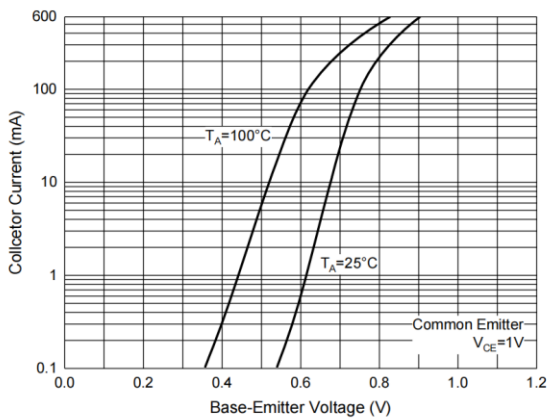


Fig. 5 - Base-Emitter Voltage Characteristics

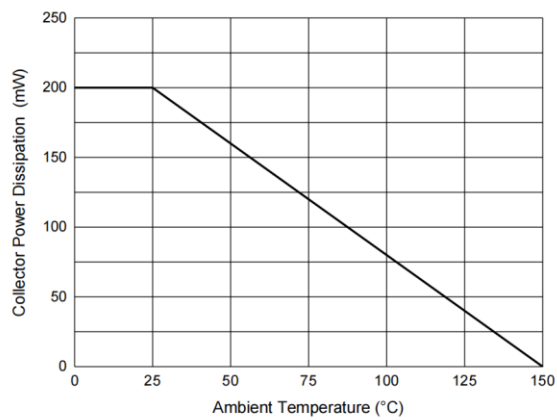
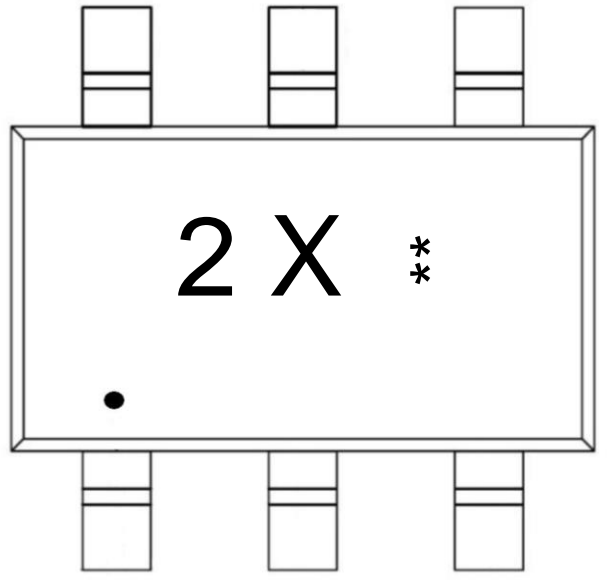


Fig. 6 - Collector Power Derating Curve

Marking Instructions



Note:

- : "1" Pin
- 2X: Product Type Code
- \*\*\*: Lot No. Code, code change with Lot No.

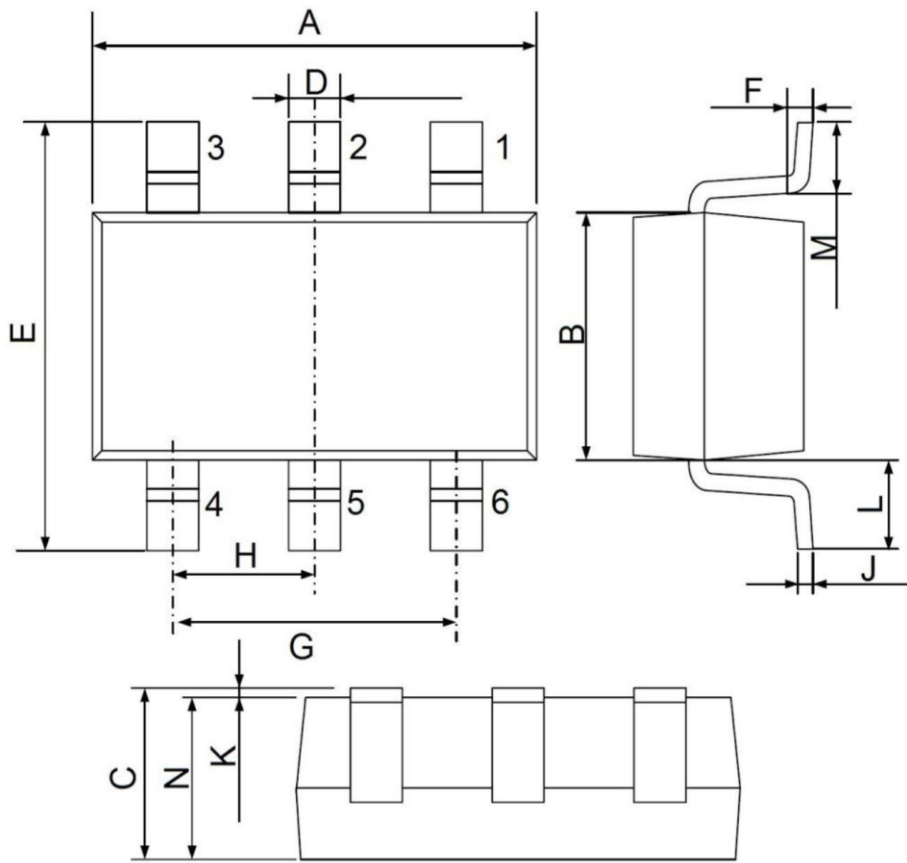
Packaging SPEC.

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