

SOT-363 Plastic-Encapsulate Transistors

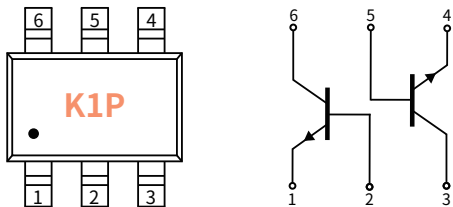
Features

- Power dissipation of 0.2W
- High Stability and High Reliability
- Dual Transistors (NPN+NPN)
- Complementary to MMDT2907A

Mechanical Data

- Case: SOT-363
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Function Diagram



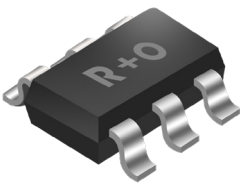
Collector-Emitter Voltage

V_{CEO} 40V

Collector Current

0.6 Ampere

SOT-363



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V _{CBO}	V	75
Collector-Emitter Voltage	V _{CEO}		40
Emitter-Base Voltage	V _{EB0}		6.0
Collector Current	I _C	A	0.6
Collector Power Dissipation	P _C	W	0.2
Storage temperature	T _{stg}	°C	-55 ~+150
Junction temperature	T _j	°C	150
Typical Thermal Resistance	R _{θJA}	°C /W	625

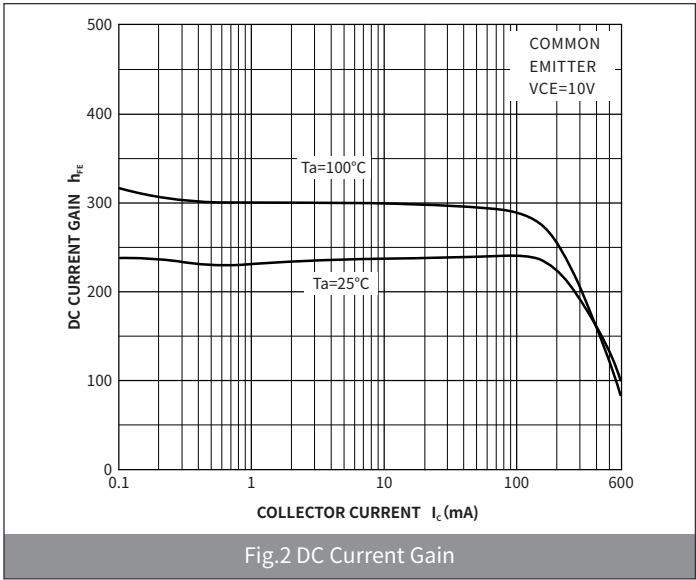
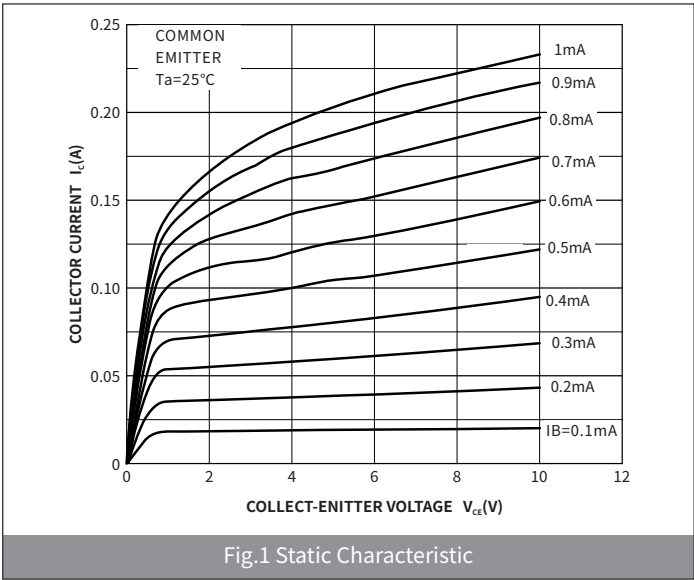
Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Typ	Max
Transition frequency	f _T	I _C = 20mA, V _{CE} = 20V ,f=100MHz	MHz	300	—	—

● Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition	Min	Typ	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=10\mu A, I_E=0$	75	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=10mA, I_B=0$	40	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=10\mu A, I_C=0$	6.0	—	—
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=60V, I_E=0$	—	—	10
Emitter-Base cut-off current	I_{EBO}		$V_{EB}= 3.0V, I_C=0$	—	—	10
DC Current Gain	$h_{FE (1)}$	—	$I_C=0.1mA \ V_{CE}=10V$	35	—	—
	$h_{FE (2)}$	—	$I_C=1mA \ V_{CE}= 10V$	50	—	—
	$h_{FE (3)}$	—	$I_C=10mA \ V_{CE}= 10V$	75	—	—
	$h_{FE (4)}$	—	$I_C=150mA \ V_{CE}= 10V$	100	—	300
	$h_{FE (5)}$	—	$I_C=500mA \ V_{CE}= 10V$	40	—	—
	$h_{FE (6)}$	—	$I_C=150mA \ V_{CE}= 1V$	35	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C= 500mA \ I_B= 50mA$	—	—	1.0
			$I_C= 150mA \ I_B= 15mA$			0.3
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C= 500mA \ I_B= 50mA$	—	—	2.0
			$I_C=150mA \ I_B= 15mA$	0.6		1.2
Output Capacitance	C_{ob}	pF	$V_{CB}= 10V, I_E=0, f=1MHZ$	—	—	8
Input Capacitance	C_{ib}		$V_{EB}= 0.5V, I_C=0, f=1MHZ$	—	—	25
Noise figure	NF	dB	$V_{CE}=10V, I_C=0.1mA, f=1kHz, R_g=1K\Omega$	—	—	4
Delay time	T_d	ns	$V_{CC}=30V, V_{BE(off)}=0.5V, I_C= 150mA, I_{B1}= 15mA$	—	—	10
Rise time	T_r			—	—	25
Storage time	T_s		$V_{CC}=30V, I_C= 150mA, I_{B1}= I_{B2}=15mA$	—	—	225
Fall time	T_f			—	—	60

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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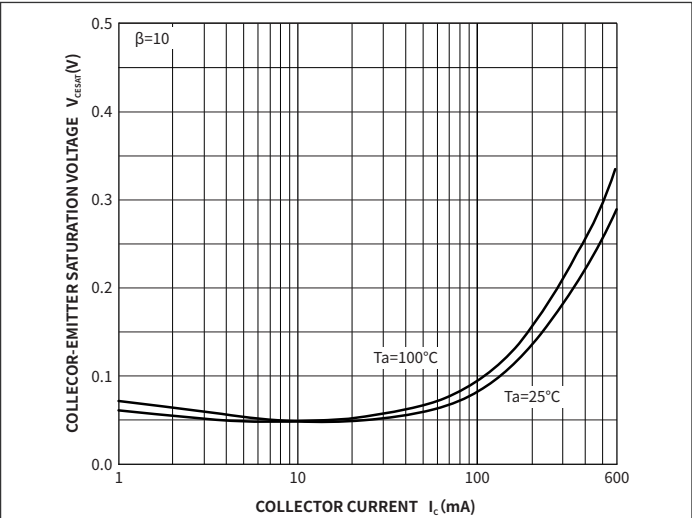


Fig.3 Collector-Emitter Saturation Voltage

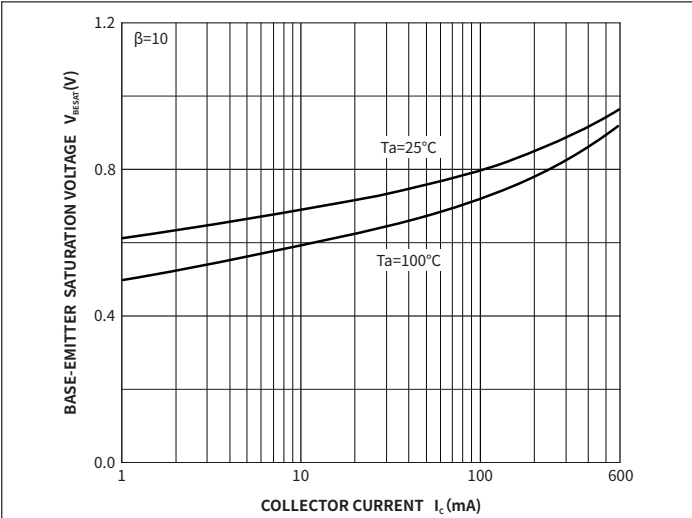


Fig.4 Base-Emitter Saturation Voltage

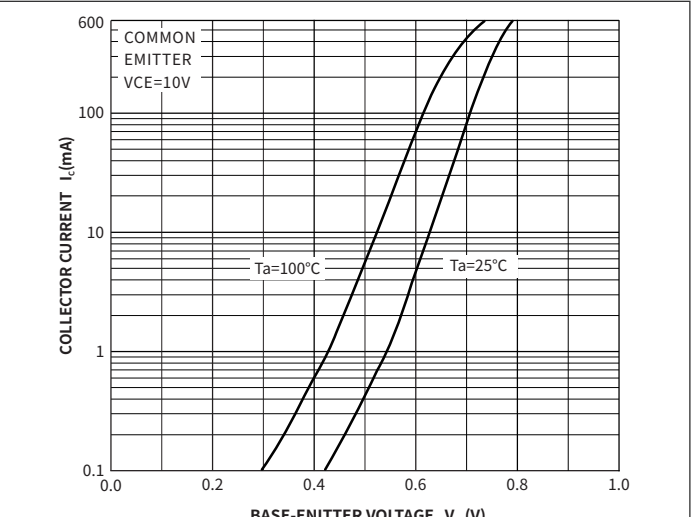


Fig.5 Base-Emitter On Voltage

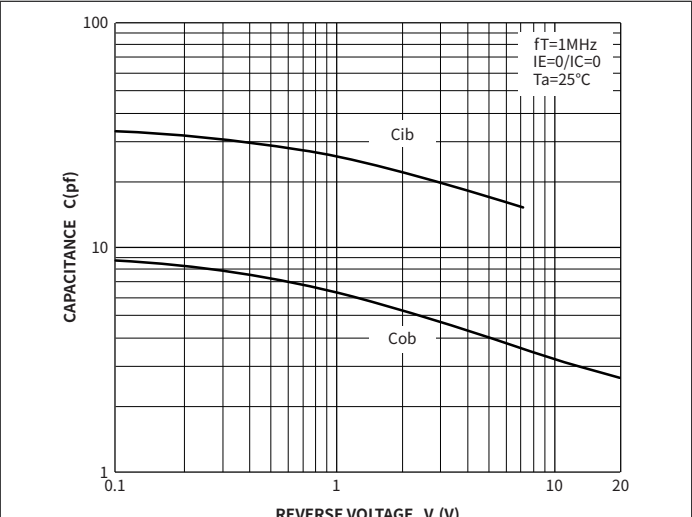


Fig.6 $C_{ob}/C_{ib}-V_{CE} V_{EB}$

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-363	R1	0.0068	3000	45000	180000	7"

● Package Outline Dimensions (SOT-363)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.09	1.10	0.035	0.043
A1	-	0.10	-	0.004
A2	0.90	1.00	0.035	0.039
b	0.15	0.35	0.006	0.014
c	0.10	0.15	0.004	0.006
D	2.00	2.20	0.079	0.087
E	1.15	1.35	0.045	0.053
E1	2.15	2.40	0.085	0.094
e	0.650TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	
L1	0.26	0.46	0.010	0.018
θ	-	8°	-	8°

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
G	-	0.65	-	0.025
H	-	1.94	-	0.076
X	0.40	-	0.016	-
Y	0.80	-	0.031	-