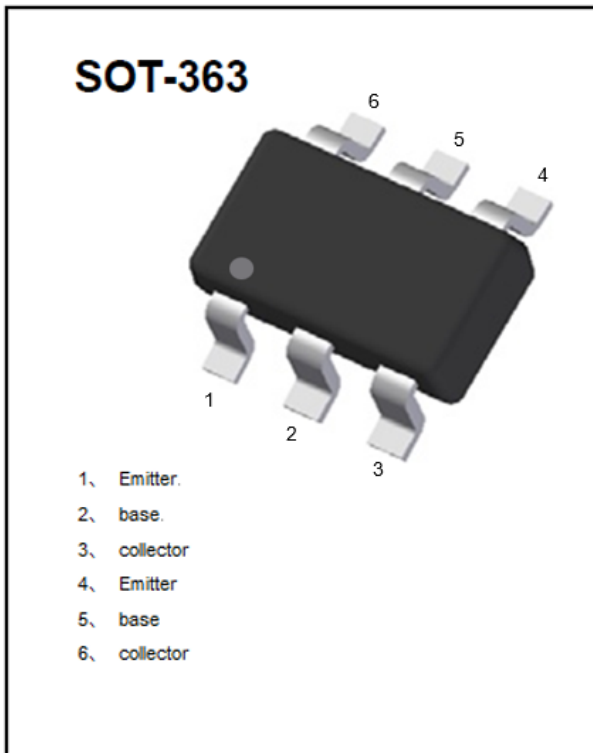


Dual NPN Small Signal Transistor



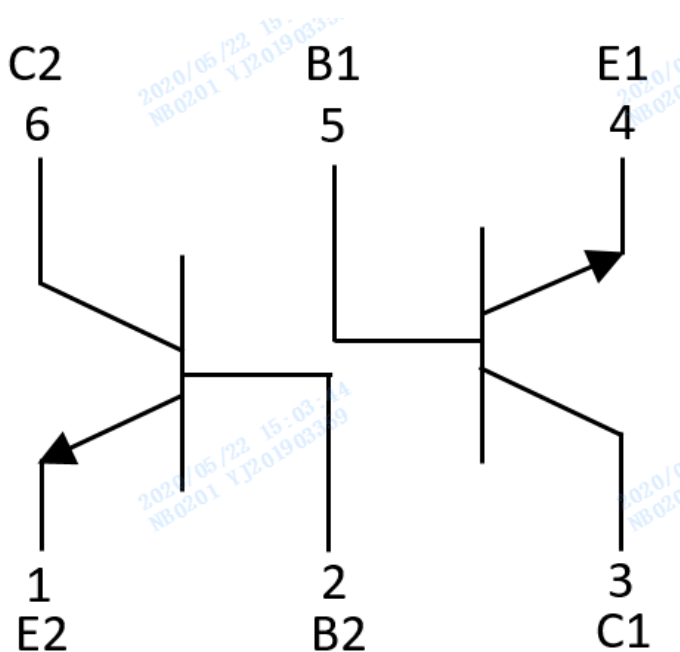
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- NPN

Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K2X

■Equivalent circuit





MMDT4401

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

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	VCBO	V	IC=100μA, IE=0	60
Collector-Emitter Voltage	VCEO	V	IC=1mA, IB=0	40
Emitter-Base Voltage	VEBO	V	IE=100μA, IC=0	6
Collector Current -Continuous	IC	mA		600
Total Device Dissipation	PC	mW		200
Junction Temperature	TJ	°C		150
Storage Temperature	TSTG	°C		-55 to +150

■Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V _{CBO}	V	IC=100μA, IE=0	60		
Collector-emitter breakdown voltage	V _{CEO}	V	IC=1mA, IB=0	40		
Emitter-base breakdown voltage	V _{EBO}	V	IE=100μA, IC=0	6		
Collector cut-off current	I _{CBO}	nA	VCB=50V, IE=0			100
Collector cut-off current	I _{CEO}	nA	VCE=35V, IB=0			500
Emmitter cut-off current	I _{EBO}	nA	VEB=3V, IC=0			100
DC current gain	h _{FE1}		VCE=1V, IC=0.1mA	20		
	h _{FE2}		VCE=1V, IC=1mA	40		
	h _{FE3}		VCE=1V, IC=10mA	80		
	h _{FE4}		VCE=1V, IC=150mA	100		300
	h _{FE5}		VCE=2V, IC=500mA	40		
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=150mA, IB=15mA			0.4
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=500mA, IB=50mA			0.75
Base-emitter saturation voltage	V _{BE(sat)}	V	IC=150mA, IB=15mA			0.95
Base-emitter saturation voltage	V _{BE(sat)}	V	IC=500mA, IB=50mA			1.2
Transition frequency	f _T	MHz	VCE=10V, IC=20mA, f=100MHz	250		
Delay time	td	ns	VCC=30V, IC=150mA, IB1=15mA, VBE(off)=2V			15
Rise time	tr	ns				20
Storage time	ts	ns				225
Fall time	tf	ns				30



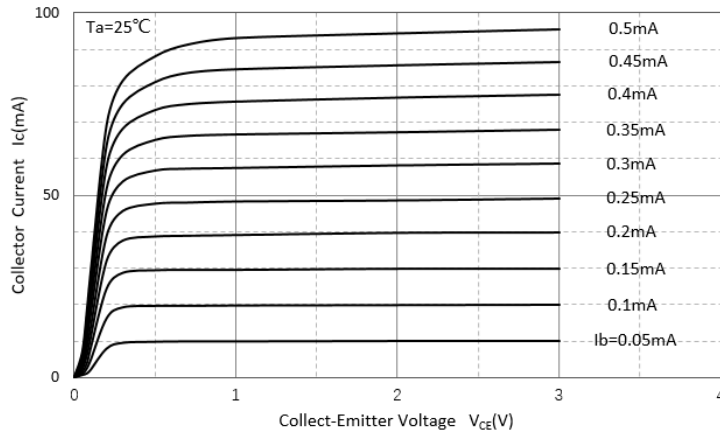
MMDT4401

■ Ordering Information (Example)

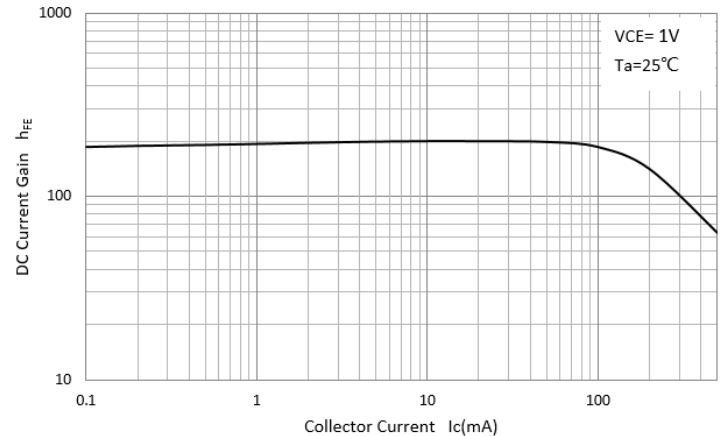
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMDT4401	F2	Approximate 0.009g	3000	30000	120000	7" reel

■ Characteristics (Typical)

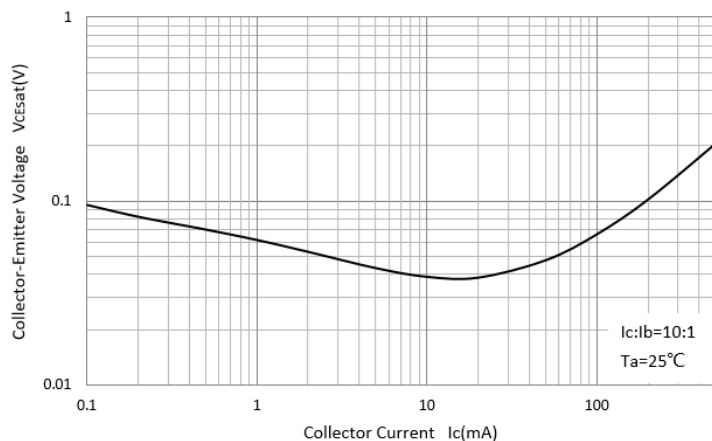
Static Characteristic



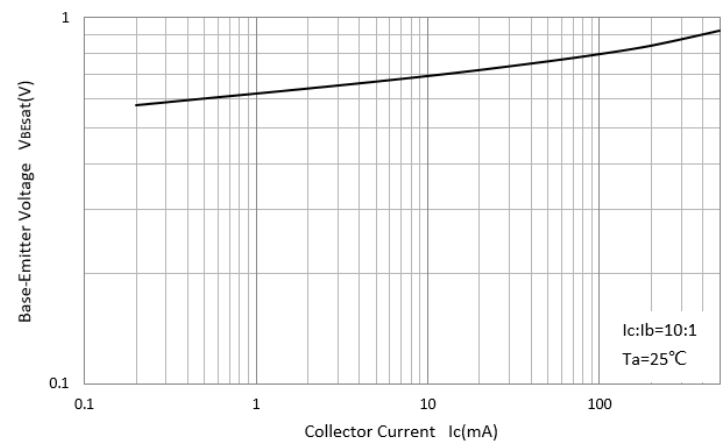
DC Current Gain



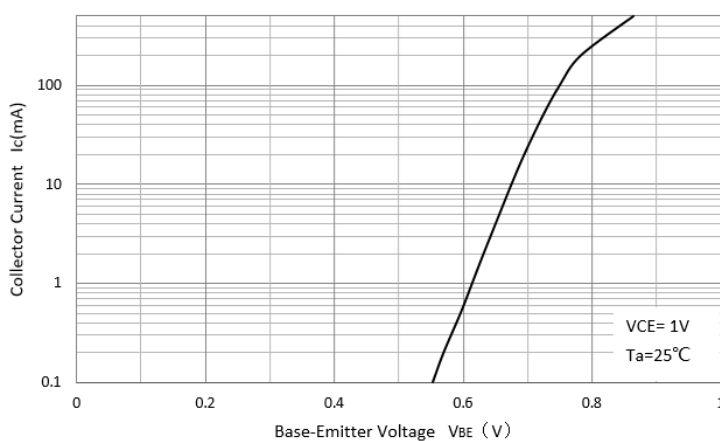
Collector-Emittor Saturation Voltage



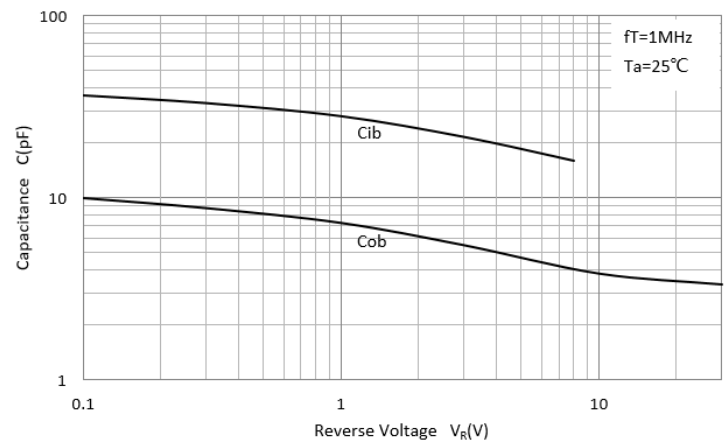
Base-Emittor Saturation Voltage



Base-Emittor On Voltage



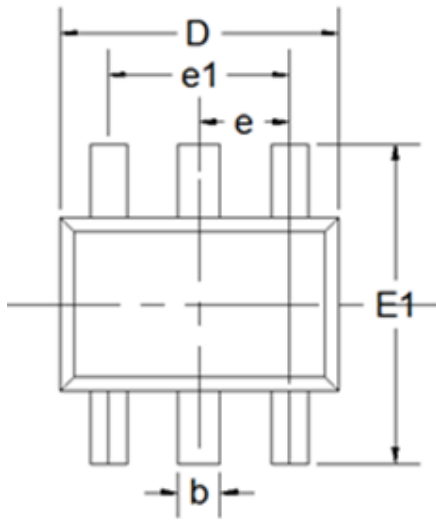
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



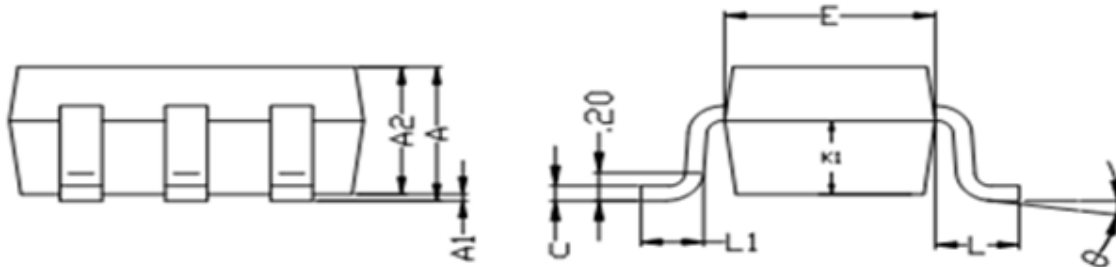


MMDT4401

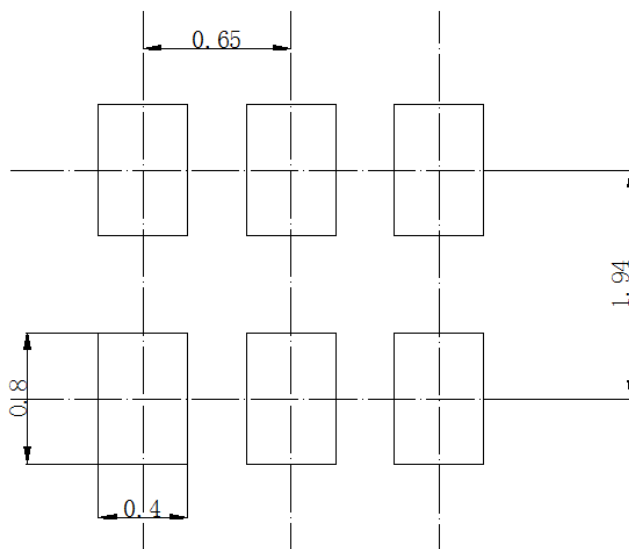
■SOT-363 Package Outline Dimensions



DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.9	1.1
A1	0	0.004	0	0.1
A2	0.035	0.039	0.9	1
b	0.006	0.014	0.15	0.35
c	0.002	0.01	0.05	0.25
D	0.071	0.087	1.8	2.2
E	0.045	0.053	1.15	1.35
E1	0.085	0.096	2.15	2.45
e	0.026Typ		0.65Typ	
e1	0.047	0.055	1.2	1.4
L	0.021Typ		0.525Typ	
L1	0.01	0.018	0.26	0.46
θ	0°		8°	



■SOT-363 Soldering Footprint



Unit: mm



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