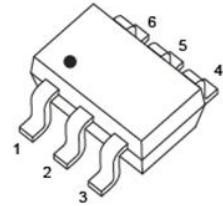


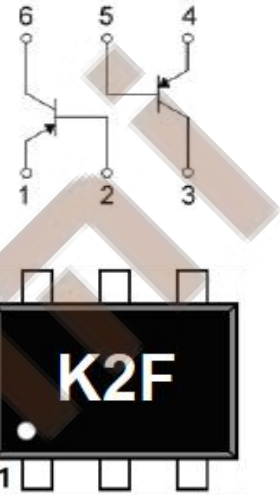
General Characteristics

VCEO	IC	VCE(sat)	fT	Tjmax
-60V	-600mA	-1.6V	200MHz	150℃



Features

- SOT363 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260℃/10seconds at terminals



Package Marking and Ordering Information

Product ID	Package	Marking	Qty(PCS)
MMDT2907A	SOT-363	K2F	3000

Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

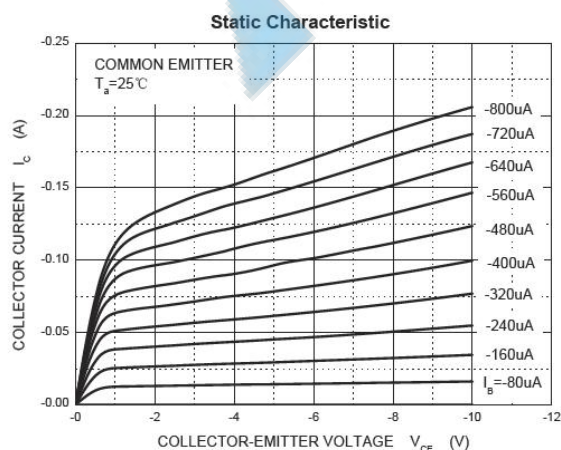
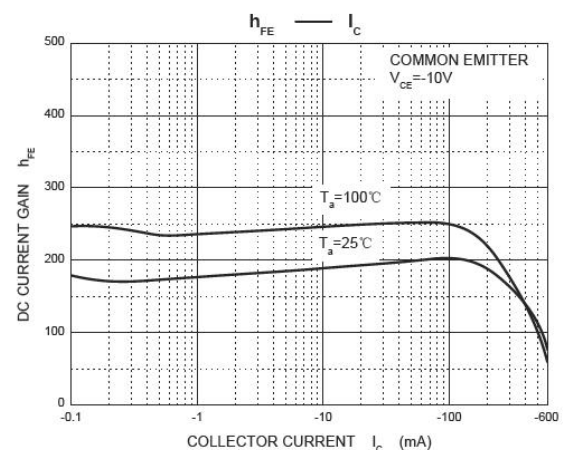
Parameters	Symbol	Value	Unit
Collector-Base Voltage	VCBO	-60	V
Collector-Emitter Voltage	VCEO	-60	V
Emitter -Base Voltage	VEBO	-5	V
Collector Current-Continuous	IC	-600	mA
Collector Power Dissipation	PC	200	mW
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-55-+150	℃

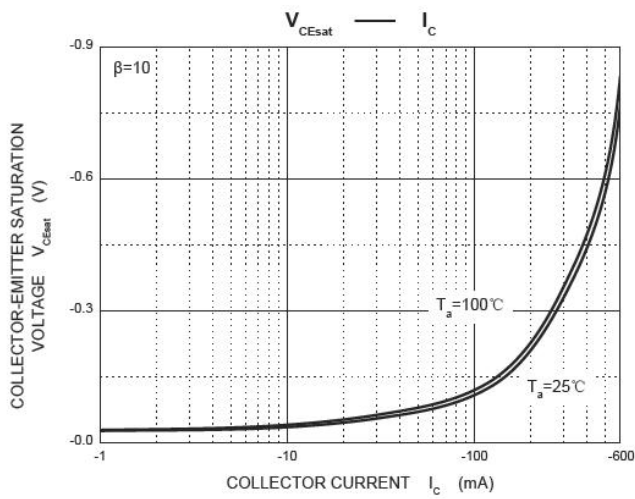
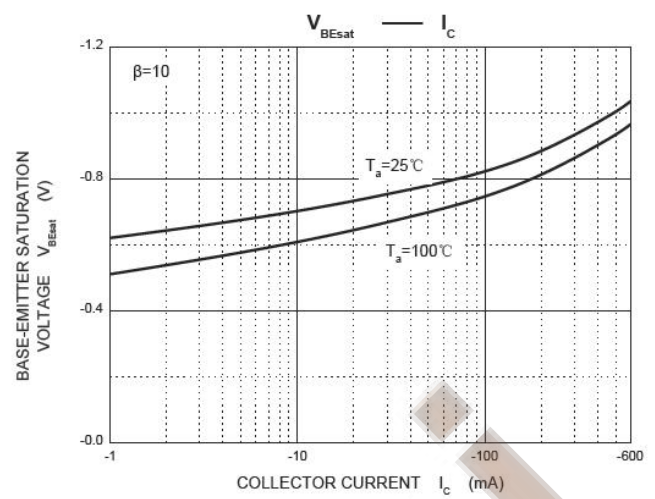
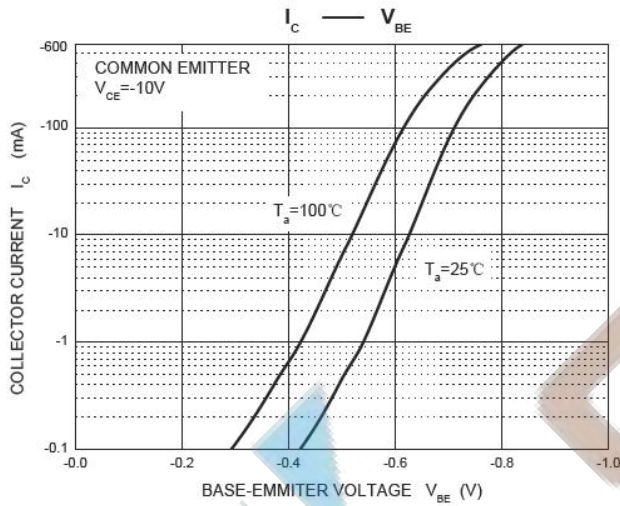
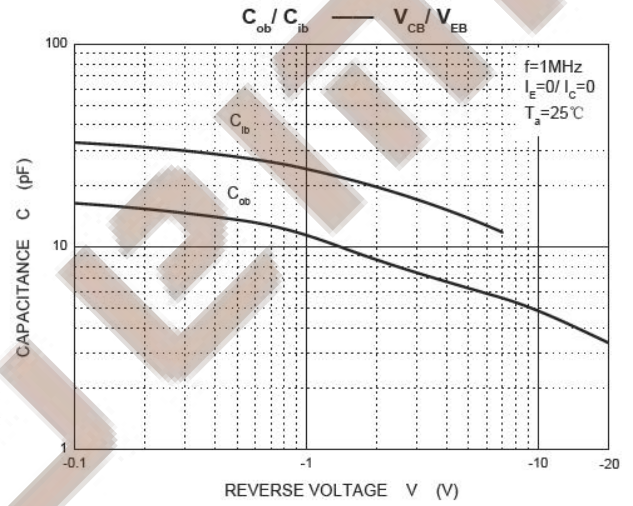
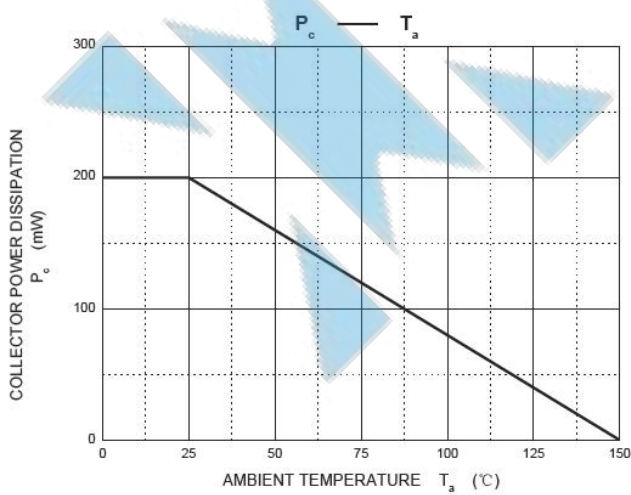
Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=-10uA, IE=0	-60		V
Collector-emitter breakdown voltage	V(BR)CEO *	IC=-10mA, IB=0	-60		V
Emitter-base breakdown voltage	V(BR)EBO	IE=-10uA, IC=0	-5		V
Collector cut-off current	ICBO	VCB=-50V, IE=0		-10	nA
Collector cut-off current	ICEX	VCE=-30V, VEB(off)=-0.5V		-50	nA
Emitter cut-off current	IEBO	VEB=-3V, IC=0		-10	nA
DC current gain	hFE(1) *	VCE=-10V, IC=-0.1mA	75		
	hFE(2) *	VCE=-10V, IC=-1mA	100		
	hFE(3) *	VCE=-10V, IC=-10mA	100		
	hFE(4) *	VCE=-10V, IC=-150mA	100	300	
	hFE(5) *	VCE=-10V, IC=-500mA	50		
Collector-emitter saturation voltage	VCE(sat)1 *	IC=-150mA, IB=-15mA		-0.4	V
	VCE(sat)2 *	IC=-500mA, IB=-50mA		-1.6	V
Base -emitter saturation voltage	VBE(sat)1 *	IC=-150mA, IB=-15mA		-1.30	V
	VBE(sat)2 *	IC=-500mA, IB=-50mA		-2.60	V
Transition frequency	fT	VCE=-20V, IC=-50mA, f=100MHz	200		MHz
Output capacitance	Cob	VCB=-10V, IE=0, f=0.1MHz		8	pF
Input capacitance	Cib	VEB=-2V, IC=0, f=0.1MHz		30	pF
Delay time	td	VCC=-30V, VBE(off)=-1.5V, IC=-150mA, IB1=-15mA VCC=-6V, IC=-150mA, IB1=IB2=-15mA		10	nS
Rise time	tr			40	nS
Storage time	ts			225	nS
Fall time	tf			60	nS

*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%

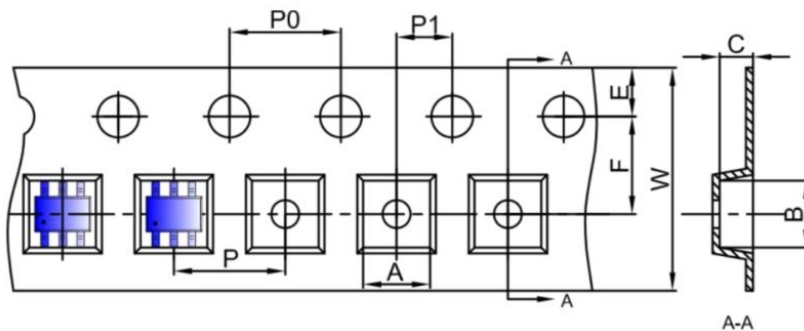
Typical characteristics





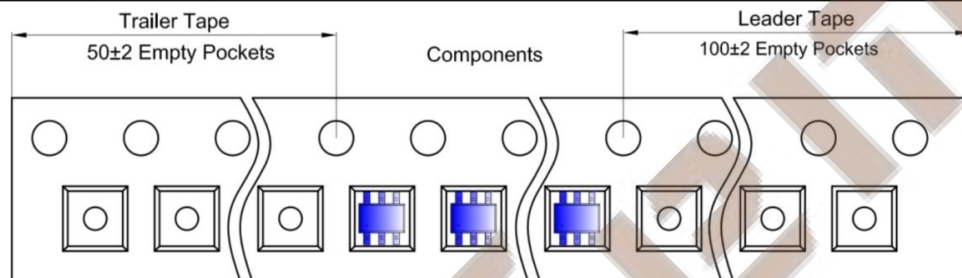
Package Information

Carrier Dimension(mm)

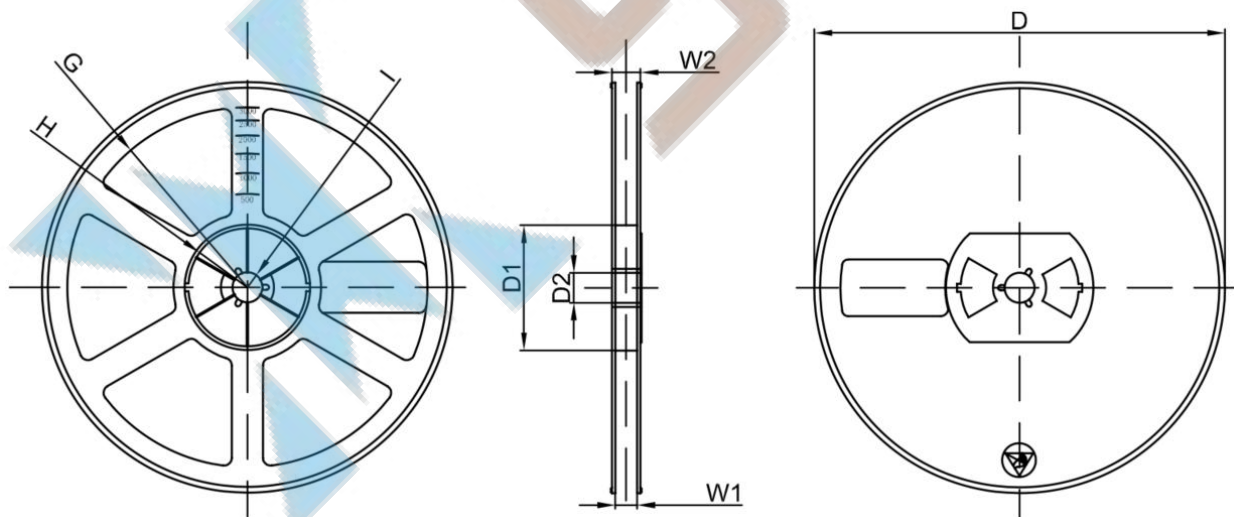


Dimensions are in millimeter

Pkg Type	A	B	C	d	E	F	P0	P	P1	W
SOT-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00



Reel Dimension(mm)



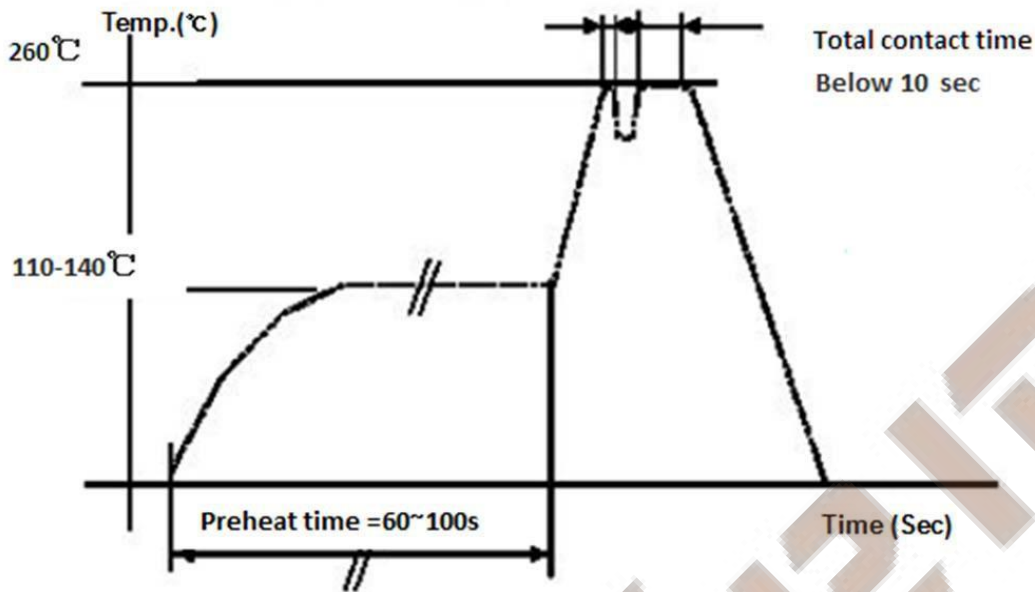
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

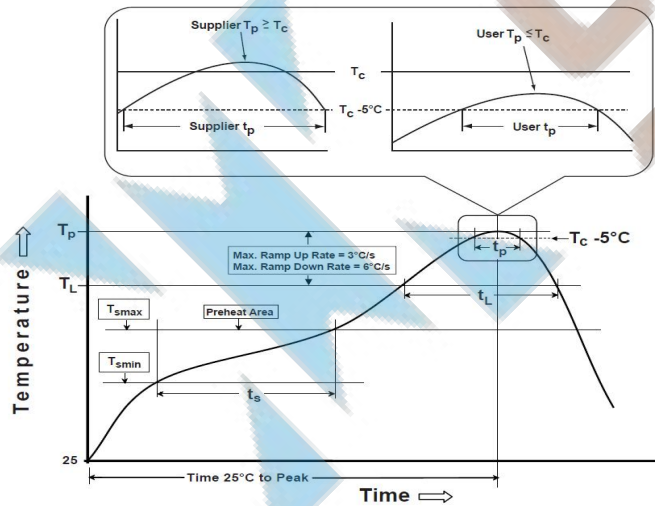
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT363	7'	178	3	210*208*203	45	440*400*230	180

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020

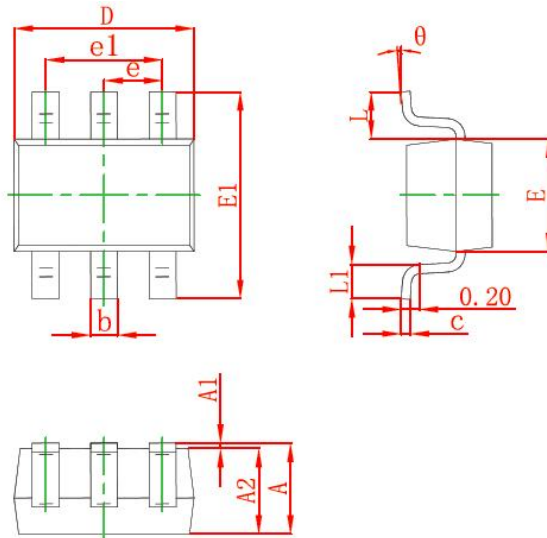


Preheat/Soak Temperature Min (Tsmin) Temperature Max (Tsmax) Time (ts) from (Tsmin to Tsmax)	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5°C
Time within 5°Cbelow Peak Temp.	20~40 Sec
Cooling Rate	6°C/sec (max)
Time from 25°C to Peak Temp.	8min (max)

c) Manual Soldering

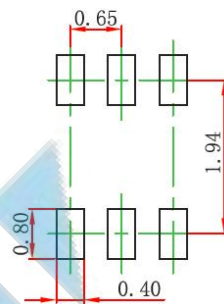
When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

Package Mechanical Data



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
θ	0°	8°

Suggested Pad Layout



Note:
1. Controlling dimension; in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Disclaimer

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