

AMMDT2222A-HF (NPN+NPN)

RoHS Device

Halogen Free



Features

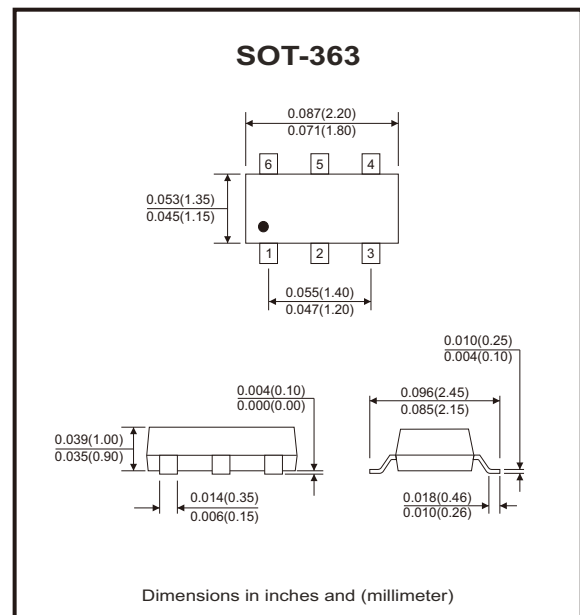
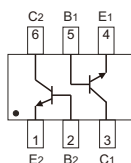
- Epoxy meets UL-94 V-0 flammability rating.
- Surface mount package ideally suited for automatic insertion.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-363, molded plastic.
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102.
- Mounting position: Any.

Circuit Diagram

B :Base
E :Emitter
C :Collector



Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	75	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	6	V
Collector current-continuous	I_C	600	mA
Total device dissipation (Note 1)	P_D	200	mW
Thermal resistance junction to ambient (Note 1)	$R_{\theta JA}$	625	K/W
Junction temperature	T_J	150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Note: 1. Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch.

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	75			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	40			V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			10	nA
Collector cut-off current	I_{CEX}	$V_{CE} = 60V, V_{EB(off)} = 3V$			10	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			10	nA
Base cut-off current	I_{BL}	$V_{CE} = 60V, V_{EB(off)} = 3V$			20	nA
DC current gain	h_{FE}	$V_{CE} = 10V, I_C = 0.1mA$	35			
		$V_{CE} = 10V, I_C = 1mA$	50			
		$V_{CE} = 10V, I_C = 10mA$	75			
		$V_{CE} = 10V, I_C = 150mA$	100		300	
		$V_{CE} = 1V, I_C = 150mA$	35			
		$V_{CE} = 10V, I_C = 500mA$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$			0.3 1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$			1.2 2	V
Transition frequency	f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	300			MHz
Delay time	t_d	$V_{CC} = 30V, I_C = 150mA$ $I_{B1} = 15mA, V_{EB(off)} = -0.5V$			10	ns
Rise time	t_r				25	
Storage time	t_s	$V_{CC} = 30V, I_C = 150mA$ $I_{B1} = -I_{B2} = 5mA$			225	ns
Fall time	t_f				60	

Typical Rating and Characteristic Curves (AMMDT2222A-HF)

Fig.1 - Static Characteristic

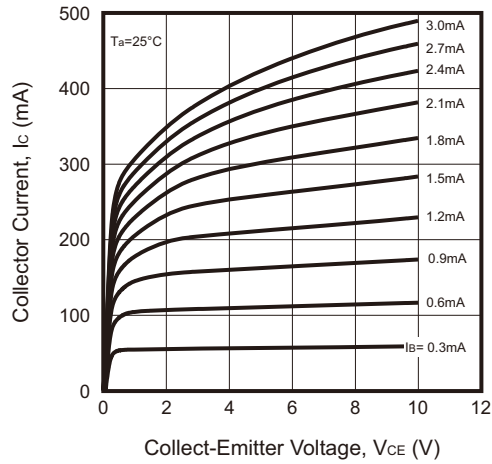


Fig.2 - DC Current Gain

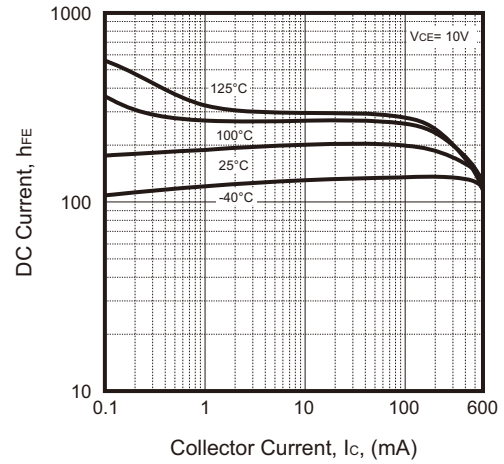


Fig.3 - Collector-Emmitter Saturation Voltage

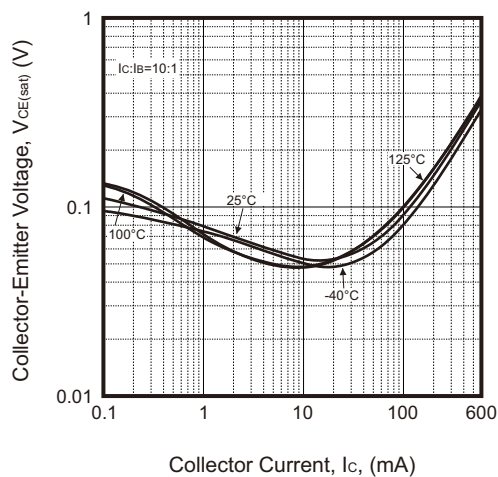


Fig.4 - Base-Emmitter Voltage

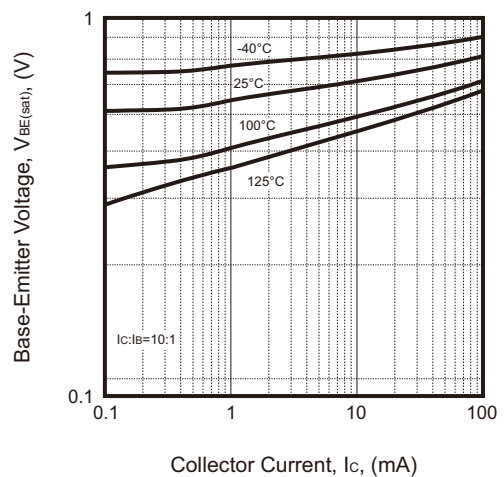


Fig.5 - Base-Emmitter on Voltage

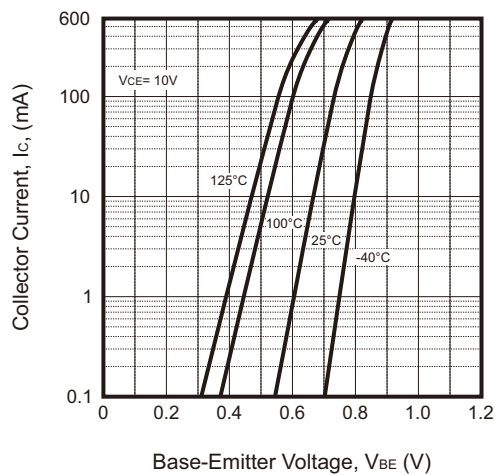
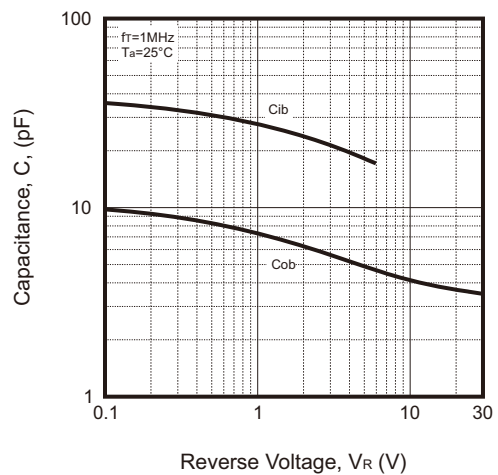
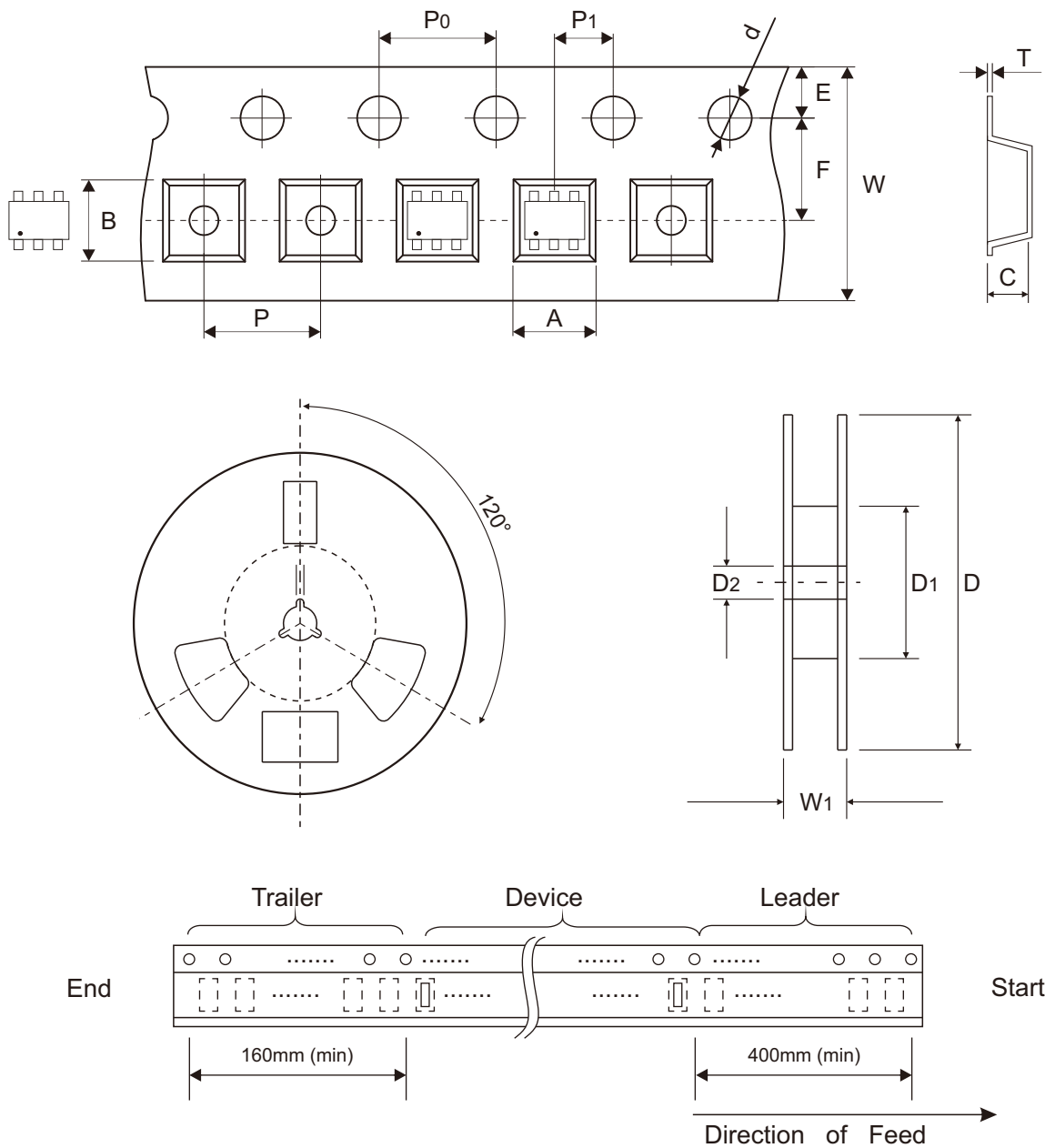


Fig.6 - Cob/Cib — VCB/VEB



Reel Taping Specification

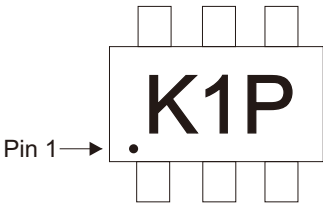


SOT-363	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.30 ± 0.10	2.55 ± 0.10	1.15 ± 0.10	1.55 ± 0.05	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.091 ± 0.004	0.100 ± 0.004	0.045 ± 0.004	0.061 ± 0.002	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-363	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.03	8.00 + 0.20 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 + 0.008 - 0.004	0.484 ± 0.039

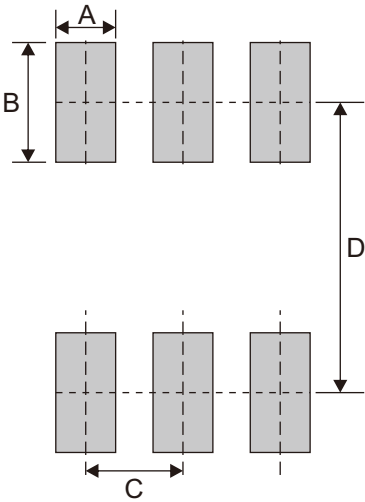
Marking Code

Part Number	Marking Code
AMMDT2222A-HF	K1P



Suggested P.C.B. PAD Layout

SIZE	SOT-363	
	(mm)	(inch)
A	0.40	0.016
B	0.80	0.031
C	0.65	0.026
D	1.94	0.076



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-363	3,000	7