

PNP Medium Power Transistor (Switching)

UMT4403 / SST4403 / MMST4403 / 2N4403

●Features

- 1) $BV_{CEO} < -40V$ ($I_C = 1mA$)
- 2) Complements the UMT4401 / SST4401 / MMST4401 / 2N4401.

●Package, marking, and packaging specifications

Pat No.	UMT4403	SST4403	MMST4403	2N4403
Packaging type	UMT3	SST3	SMT3	TO-92
Marking	R2T	R2T	R2T	—
Code	T106	T116	T146	T93
Basic ordering unit (pieces)	3000	3000	3000	3000

●Absolute maximum ratings ($T_a = 25^\circ C$)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	—40	V
Collector-emitter voltage		V_{CE}	—40	V
Emitter-base voltage		V_{EBO}	—6	V
Collector current		I_C	—0.6	A
Collector power dissipation	UMT4403 SST4403 MMST4403	P_C	0.2	W
	2N4403		0.625	
	Junction temperature		T_j	150
Storage temperature		T_{stg}	—55~+150	°C

●External dimensions (Units : mm)

UMT4403 ROHM : UMT3 EIAJ : SC-70 (1) Emitter (2) Base (3) Collector	SST4403 ROHM : SST3 (1) Emitter (2) Base (3) Collector
MMST4403 ROHM : SMT3 EIAJ : SC-59 (1) Emitter (2) Base (3) Collector	2N4403 ROHM : TO-92 EIAJ : SC-43 (1) Emitter (2) Base (3) Collector

●Electrical characteristics ($T_a = 25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-40	—	—	V	$I_C = -100 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-40	—	—	V	$I_C = -1 mA$
Emitter-base breakdown voltage	BV_{EBO}	-5	—	—	V	$I_E = -100 \mu A$
Collector cutoff current	I_{CBO}	—	—	-0.1	μA	$V_{CB} = -35V$
Emitter cutoff current	I_{EBO}	—	—	-0.1	μA	$V_{EB} = -5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.4	V	$I_C/I_B = -150mA/-15mA$
		—	—	-0.75	V	$I_C/I_B = -500mA/-50mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-0.75	—	-0.95	V	$I_C/I_B = -150mA/-15mA$
		—	—	-1.3	V	$I_C/I_B = -500mA/-50mA$
DC current transfer ratio	h_{FE}	30	—	—	—	$V_{CE} = -1V, I_C = -0.1mA$
		60	—	—	—	$V_{CE} = -1V, I_C = -1mA$
		100	—	—	—	$V_{CE} = -1V, I_C = -10mA$
		100	—	300	—	$V_{CE} = -1V, I_C = -150mA$
		20	—	—	—	$V_{CE} = -2V, I_C = -500mA$
Gain bandwidth product	f_r	200	—	—	MHz	$V_{CE} = -10V, I_E = 20mA, f = 100MHz$
Collector output capacitance	C_{ob}	—	—	8.5	pF	$V_{CB} = -10V, f = 100kHz$
Emitter input capacitance	C_{ib}	—	—	30	pF	$V_{EB} = -0.5V, f = 100kHz$
Delay time	t_d	—	—	15	ns	$V_{CC} = -30V, V_{EB(OFF)} = -2V, I_C = -150mA, I_{B1} = -15mA$
Rise time	t_r	—	—	20	ns	$V_{CC} = -30V, V_{EB(OFF)} = -2V, I_C = -150mA, I_{B1} = -15mA$
Storage time	t_{stg}	—	—	225	ns	$V_{CC} = -30V, I_C = -150mA, I_{B1} = -I_{B2} = -15mA$
Fall time	t_f	—	—	30	ns	$V_{CC} = -30V, I_C = -150mA, I_{B1} = -I_{B2} = -15mA$

●Electrical characteristic curves

The electrical characteristic curves for these products are the same as those of UMT2907A, SST2907A, MMST2907A and PN2907A. Refer to pages 598 to 601.