

# 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 (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	-40	V
Collector-emitter voltage	$V_{CEO}$	-40	V
Emitter-base voltage	$V_{EBO}$	-6	V
Collector current	$I_c$	-0.6	A
Collector power dissipation	UMT4403	0.2	W
	SST4403		
	MMST4403		
	2N4403		
Junction temperature	$T_j$	150	°C
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 (Ta=25°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	$I_c = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-5	—	—	V	$I_E = -100 \mu A$
Collector cutoff current	$I_{cbo}$	—	—	-0.1	$\mu A$	$V_{CB} = -35V$
Emitter cutoff current	$I_{EBO}$	—	—	-0.1	$\mu A$	$V_{EB} = -5V$
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.