Signal Transistors

MPS-A42, A43, MPS-A92, A93

Complimentary High Voltage Silicon Transistors

TO-92

The GE/RCA MPS-A42, A43 NPN types and the MPS-A92, A93 PNP types are complementary planar epitaxial silicon transistors designed for high voltage switching and amplifier applications. PNP values are negative observe proper polarity. These types are supplied in JEDEC TO-92 package.

MAXIMUM RATINGS, *Absolute-Maximum Values:*

	MPS-A43,A93	MPS-A42,A92	
COLLECTOR TO EMITTER VOLTAGE (V_{CEO})	200	300	V
EMITTER TO BASE VOLTAGE (V_{EBO})	6	6	V
COLLECTOR TO BASE VOLTAGE (V_{CBO})	200	300	V
CONTINUOUS COLLECTOR CURRENT (I_C)	500	500	mA
TOTAL POWER DISSIPATION ($T_C \leq 25°C$)(P_T)	1500		mW
TOTAL POWER DISSIPATION ($T_A \leq 25°C$) (P_T)	625		mW
DERATE FACTOR $T_C \geq 25°C$	12		mW/°C
DERATE FACTOR $T_A \geq 25°C$	5		mW/°C
OPERATING TEMPERATURE (T_J)	−55 to +150		°C
STORAGE TEMPERATURE (T_{STG})	−55 to +150		°C
LEAD TEMPERATURE, 1/16" ± 1/32" (1.58mm ± 0.8mm) from case at 10s max. (T_L)	+260		°C

File Number **2075**

MPS-A42, A43, MPS-A92, A93

T-29-21

ELECTRICAL CHARACTERISTICS, At Ambient Temperature (T_A) = 25°C Unless Otherwise Specified

CHARACTERISTICS	SYMBOL	LIMITS								UNITS
		MPS-A42		MPS-A43		MPS-A92		MPS-A93		
		MIN.	MAX.	MIN.	MAX	MIN.	MAX.	MIN.	MAX	
Collector-Emitter Breakdown Voltage (I_C = 10 mA, I_B = 0)	BV_{CEO}	300	–	200	–	300	–	200	–	V
Collector-Base Breakdown Voltage (I_C = 100μA, I_E = 0)	BV_{CBO}	300	–	200	–	300	–	200	–	
Collector Cutoff Current (V_{CB} = 160V, I_E = 0)	I_{CBO}	–	–	–	100	–	–	–	250	nA
(V_{CB} = 200V, I_E = 0)		–	100	–	–	–	250	–	–	
Emitter Cutoff Current (V_{EB} = 4V, I_C = 0)	I_{EBO}	–	–	–	100	–	–	–	–	
(V_{EB} = 6V, I_C = 0)		–	100	–	–	–	–	–	–	
(V_{EB} = 3V, I_C = 0)		–	–	–	–	–	100	–	100	
DC Forward Current Transfer Ratio (V_{CE} = 10V, I_C = 10mA)	h_{FE}	40	–	40	–	40	–	40	–	–
(V_{CE} = 10V, I_C = 30mA)		40	–	50	200	25	–	30	150	
(V_{CE} = 10V, I_C = 1mA)		25	–	25	–	25	–	25	–	
Collector-Emitter Saturation Voltage (I_C = 20A, I_B = 2mA)	$V_{CE(SAT)}$	–	0.5	–	0.5	–	0.4	–	0.4	V
Base Emitter Saturation Voltage (I_C = 20mA, I_B = 2mA)	$V_{BE(SAT)}$	–	0.9	–	0.9	–	0.9	–	0.9	
Gain Bandwidth Product (V_{CE} = 10V, I_C = 20mA, f = 20 MHz)	f_T	50	–	50	–	50	–	50	–	MHz

TERMINAL CONNECTIONS

Lead 1 - Emitter
Lead 2 - Base
Lead 3 - Collector