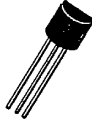


Signal Transistors

T-29-27

**MPS-A63, MPS-A64****Silicon Darlington Transistors**

TO-92

The GE/RCA MPS-A63 and A64 are planar epitaxial passivated PNP silicon Darlington transistors designed for preamplifier input applications where high impedance is a

requirement. These types are supplied in JEDEC TO-92 package.

**MAXIMUM RATINGS, Absolute-Maximum Values:**

COLLECTOR TO EMITTER VOLTAGE ( $V_{CE0}$ )	.....	-30 V
COLLECTOR TO BASE VOLTAGE ( $V_{CBO}$ )	.....	-30 V
EMITTER TO BASE VOLTAGE ( $V_{EBO}$ )	.....	-10 V
CONTINUOUS COLLECTOR CURRENT ( $I_C$ )	.....	-300 mA
TOTAL POWER DISSIPATION ( $T_A \leq 25^\circ\text{C}$ ) ( $P_T$ )	.....	625 mW
TOTAL POWER DISSIPATION ( $T_C \leq 25^\circ\text{C}$ ) ( $P_T$ )	.....	1500 mW
DERATE FACTOR ( $T_A \geq 25^\circ\text{C}$ ) ( $P_T$ )	.....	5 mW/ $^\circ\text{C}$
DERATE FACTOR ( $T_C \geq 25^\circ\text{C}$ ) ( $P_T$ )	.....	12 mW/ $^\circ\text{C}$
OPERATING TEMPERATURE ( $T_J$ )	.....	-65° to +150°C
STORAGE TEMPERATURE ( $T_{STG}$ )	.....	-55° to +150°C
LEAD TEMPERATURE, $1/16" \pm 1/32"$ (1.58mm $\pm$ 0.8mm) from case for 10s max. ( $T_L$ )	.....	+260°C

File Number **2076**

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Signal Transistors

**MPS-A63, MPS-A64**

T-29-27

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

CHARACTERISTICS	SYMBOL	LIMITS			UNITS
		MIN.	TYP.	MAX.	
Collector-Emitter Breakdown Voltage ( $I_C = 100\mu A, I_B = 0$ )	$BV_{CES}$	30	—	—	V
Collector Cutoff Current ( $V_{CB} = 30V, I_E = 0$ )	$I_{CBO}$	—	—	-100	nA
Emitter Cutoff Current ( $V_{BE} = 10V, I_C = 0$ )	$I_{EBO}$	—	—	-100	
DC Forward Current Transfer Ratio ( $I_C = 10\text{ mA}, V_{CE} = 5V$ )*	$h_{FE}$	—	5,000	—	—
MPS-A63		—	10,000	—	
DC Forward Current Transfer Ratio ( $I_C = 100\text{ mA}, V_{CE} = 5V$ )*		—	10,000	—	
MPS-A64		—	20,000	—	
Small Signal Current Gain ( $I_C = 10\text{ mA}, V_{CE} = 5V, f = 1\text{ kHz}$ )	$h_{fe}$	—	35	—	—
Collector-Emitter Saturation Voltage ( $I_C = 100\text{ mA}, I_B = 0.1\text{ mA}$ )*	$V_{CE(SAT)}$	—	-0.8	-1.5	V
Base-Emitter On-Voltage ( $I_C = 100\text{ mA}, V_{CE} = 10V$ )	$V_{BE(ON)}$	—	-1.25	-2	
Gain-Bandwidth Product ( $I_C = 100\text{ mA}, V_{CE} = 5V, f = 100\text{ MHz}$ )	$f_T$	125	—	—	MHz
Output Capacitance ( $V_{CB} = 10V, I_E = 0, f = 100\text{ kHz}$ )	$C_{ob}$	—	4	—	pF
Noise Figure ( $I_C = 1\text{ mA}, V_{CE} = 5V, I_S = 100\text{ k}\Omega, f = 1\text{ kHz}$ )	NF	—	2	—	dB

\*Pulse conditions:  $\leq 300\mu s$  pulse width,  $\leq 2\%$  duty cycle**TERMINAL CONNECTIONS**

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