

# America Semiconductor



"In America Semi We Trust"

MANUFACTURER OF WORLD CLASS HIGH POWER SEMICONDUCTORS

## America Semiconductor

Silicon Standard Recovery Diode

### Features

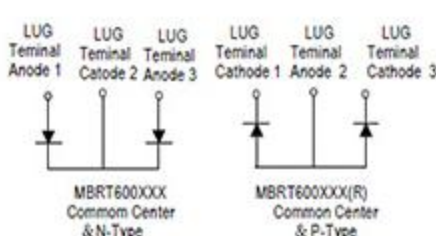
- High Surge Capability
- Types up to 1600 V  $V_{RRM}$

## MSRTA600120(A) thru MSRTA600160(A)

$V_{RRM} = 600\text{ V} - 1600\text{ V}$

$I_F = 600\text{ A}$

Heavy Three Tower Package



Maximum ratings, at  $T_j = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Conditions	MSRTA600120(A)	MSRTA600140(A)	MSRTA600160(A)	Unit
Repetitive peak reverse voltage	$V_{RRM}$		1200	1400	1600	V
RMS reverse voltage	$V_{RMS}$		848	990	1131	V
DC blocking voltage	$V_{DC}$		1200	1400	1600	V
Continuous forward current	$I_F$	$T_C \leq 125\text{ }^\circ\text{C}$	600	600	600	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	5800	5800	5800	A
Operating temperature	$T_j$		-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to 175	-40 to 175	-40 to 175	$^\circ\text{C}$

Electrical characteristics, at  $T_j = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Conditions	MSRTA600120(A)	MSRTA600140(A)	MSRTA600160(A)	Unit
Diode forward voltage	$V_F$	$I_F = 600\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	1.2	1.2	1.2	V
Reverse current	$I_R$	$V_R = 600\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$	25	25	25	$\mu\text{A}$
		$V_R = 600\text{ V}$ , $T_j = 150\text{ }^\circ\text{C}$	10	10	10	mA

### Thermal characteristics

Parameter	Symbol	Conditions	MSRTA600120(A)	MSRTA600140(A)	MSRTA600160(A)	Unit
Thermal resistance, junction - case	$R_{thJC}$		0.12	0.12	0.12	$^\circ\text{C/W}$



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## MSRTA600120(A) thru MSRTA600160(A)

Figure .1- Typical Forward Characteristics

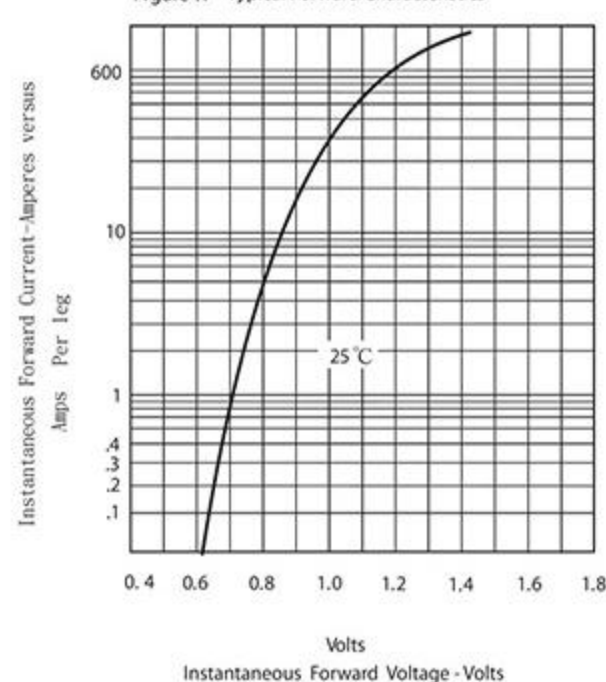


Figure.2 Forward Derating Curve

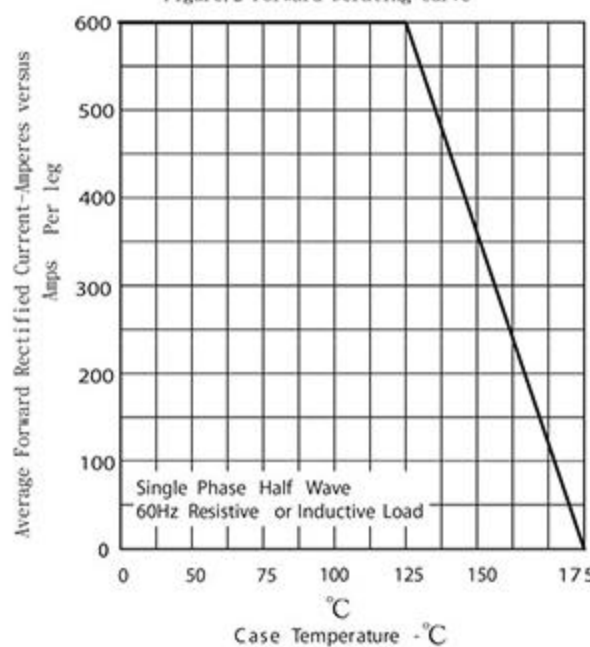


Figure.3-Peak Forward Surge Current

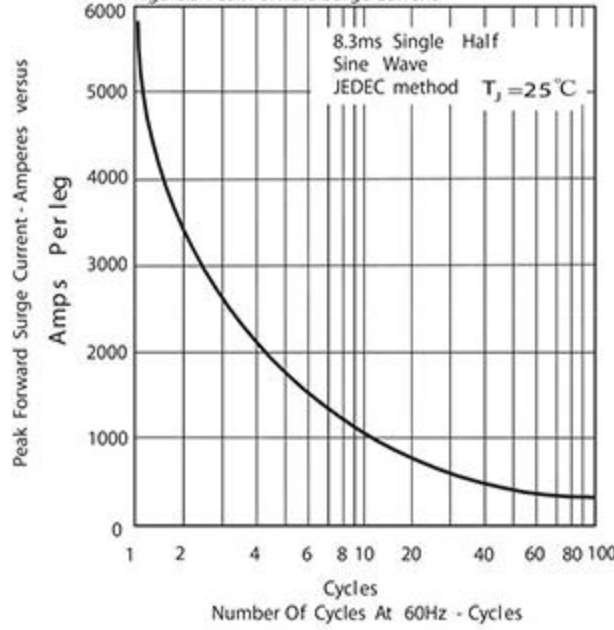
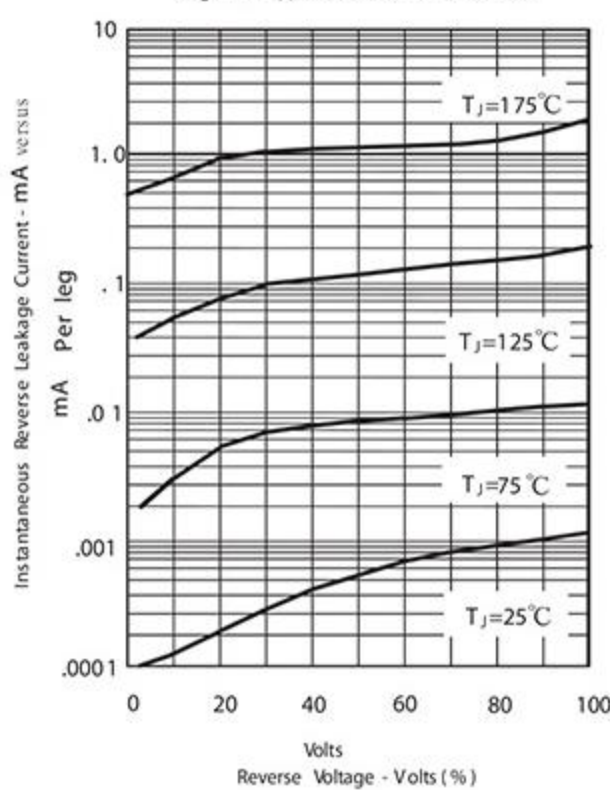


Figure .4-Typical Reverse Characteristics



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