



R U N A U

Jiangsu Runau Electronics Manufacturing Co.,Ltd

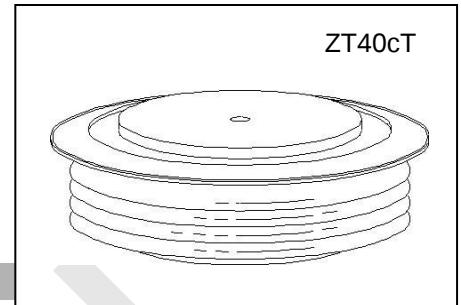
YA643-Standard Diode

3500~4400 V_{RRM}

STANDARD DIODE WITH HIGH JUNCTION TEMPERATURE

Features:

- . All diffused structure
- . Blocking capability up to 4400 volts
- . Soft reverse recovery
- . Rugged ceramic hermetic package
- . Pressure assembled device



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

Device Type	V _{RRM} (1)	V _{RSM} (1)
YA643CE	3500	3700
YA643CM	3600	3800
YA643CN	3800	4000
YA643DP	4000	4200
YA643DB	4200	4400
YA643DD	4400	4600

V_{RRM} = Repetitive peak reverse voltage

V_{RSM} = Non repetitive peak reverse voltage (2)

Repetitive peak reverse leakage current	I _{RRM}	10 mA 50 mA (3)
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Notes:

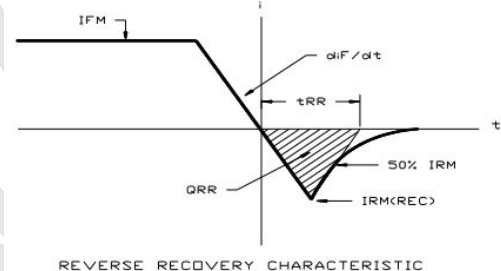
All ratings are specified for T_j=25 °C, unless otherwise stated

(1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +170°C.

(2) 10 msec. max. pulse width

(3) Maximum value for T_j = 170 °C.

(4) See parameter definition below :



Conducting - on state

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Average forward current	I _{F(AV)}		1000		A	Sinewave 180°, T _c =95°C
RMS forward current	I _{FRMS}		1570		A	Nominal value
Peak one cycle surge (non repetitive) current	I _{FSM}		11000 10000		A	8.3 msec (60Hz), sinusoidal wave-shape, 180° conduction, T _j = 160 °C 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 160 °C
I square t	I ² t		500000		A ² s	8.3 msec and 10.0 msec
Peak forward voltage	V _{FM}		1.4		V	I _{FM} = 1000A; Duty cycle ≤0.01%; T _j =160°C
Reverse Recovery Current (4)	I _{RM(REC)}		195		A	dI _F /dt = 25 A/μs; T _j =160°C
Reverse Recovery Charge (4)	Q _{rr}		*		μC	
Reverse Recovery Time (4)	t _{rr}		*		μs	

* For guaranteed maximum values, contact factory

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+170		°C	
Storage temperature	T_{stg}	-40	+170		°C	
Thermal resistance - junction to case	$R_{\Theta(j-c)}$		0.043 0.086		°C/W	Double sided cooled Single sided cooled
Thermal resistance - case to heatsink	$R_{\Theta(c-s)}$		0.015 0.030		°C/W	Double sided cooled * Single sided cooled*
Mounting force	P			15	kN	
Weight	W			0.26	kg.	

* Mounting surfaces smooth, flat and greaseless

CASE OUTLINE AND DIMENSIONS

