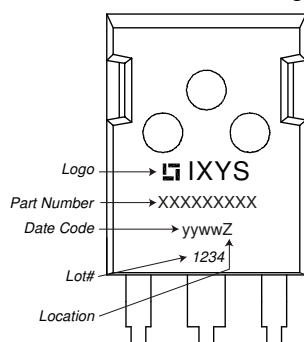


Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$				150	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$				150	V
I_R	reverse current, drain current	$V_R = 150\text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$			680	μA
		$V_R = 150\text{ V}$	$T_{VJ} = 125^{\circ}\text{C}$			7.5	mA
V_F	forward voltage drop	$I_F = 35\text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$			0.90	V
		$I_F = 70\text{ A}$				1.06	V
		$I_F = 35\text{ A}$	$T_{VJ} = 125^{\circ}\text{C}$			0.77	V
		$I_F = 70\text{ A}$				0.94	V
I_{FAV}	average forward current	$T_C = 150^{\circ}\text{C}$ rectangular $d = 0.5$	$T_{VJ} = 175^{\circ}\text{C}$			35	A
V_{F0}	threshold voltage	} for power loss calculation only		$T_{VJ} = 175^{\circ}\text{C}$		0.53	V
r_F	slope resistance					4.9	m Ω
R_{thJC}	thermal resistance junction to case					0.7	K/W
R_{thCH}	thermal resistance case to heatsink				0.3		K/W
P_{tot}	total power dissipation	$T_C = 25^{\circ}\text{C}$				215	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}\text{C}$			600	A
C_J	junction capacitance	$V_R = 24\text{ V}$ $f = 1\text{ MHz}$	$T_{VJ} = 25^{\circ}\text{C}$		226		pF

Package TO-247			Ratings			
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal ¹⁾			50	A
T_{VJ}	virtual junction temperature		-55		175	°C
T_{op}	operation temperature		-55		150	°C
T_{stg}	storage temperature		-55		150	°C
Weight				6		g
M_D	mounting torque		0.8		1.2	Nm
F_C	mounting force with clip		20		120	N

Product Marking



Part description

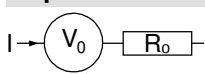
D = Diode
 S = Schottky Diode
 A = low VF
 70 = Current Rating [A]
 C = Common Cathode
 150 = Reverse Voltage [V]
 HB = TO-247AD (3)

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA70C150HB	DSA70C150HB	Tube	30	506708

Equivalent Circuits for Simulation

* on die level

$T_{VJ} = 175^{\circ}\text{C}$



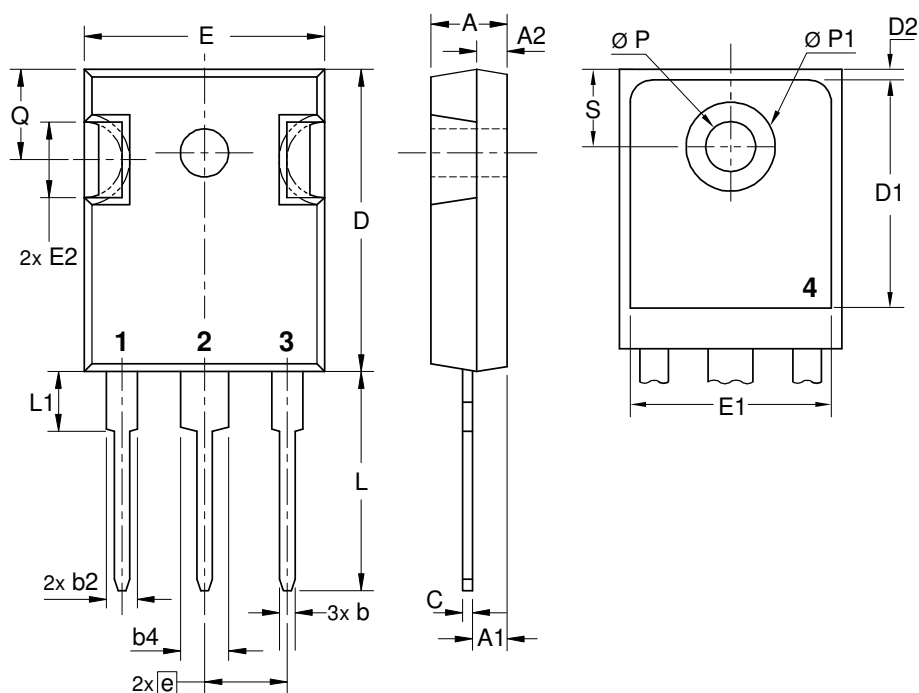
Schottky

$V_{0\max}$ threshold voltage 0.53

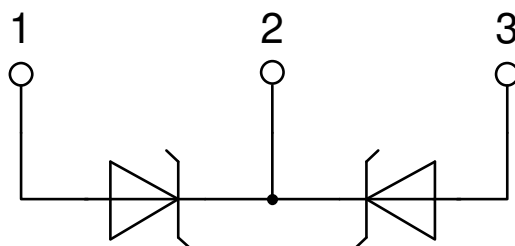
$R_{0\max}$ slope resistance * 2.3

V

mΩ

Outlines TO-247


Sym.	Inches		Millimeter	
	min.	max.	min.	max.
A	0.185	0.209	4.70	5.30
A1	0.087	0.102	2.21	2.59
A2	0.059	0.098	1.50	2.49
D	0.819	0.845	20.79	21.45
E	0.610	0.640	15.48	16.24
E2	0.170	0.216	4.31	5.48
e	0.215	BSC	5.46	BSC
L	0.780	0.800	19.80	20.30
L1	-	0.177	-	4.49
Ø P	0.140	0.144	3.55	3.65
Q	0.212	0.244	5.38	6.19
S	0.242	BSC	6.14	BSC
b	0.039	0.055	0.99	1.40
b2	0.065	0.094	1.65	2.39
b4	0.102	0.135	2.59	3.43
c	0.015	0.035	0.38	0.89
D1	0.515	-	13.07	-
D2	0.020	0.053	0.51	1.35
E1	0.530	-	13.45	-
Ø P1	-	0.29	-	7.39



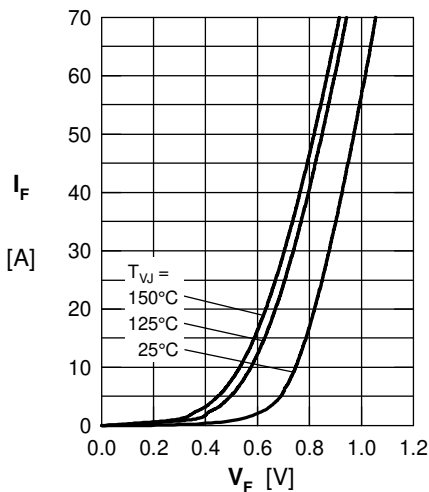
Schottky


Fig. 1 Maximum forward voltage drop characteristics

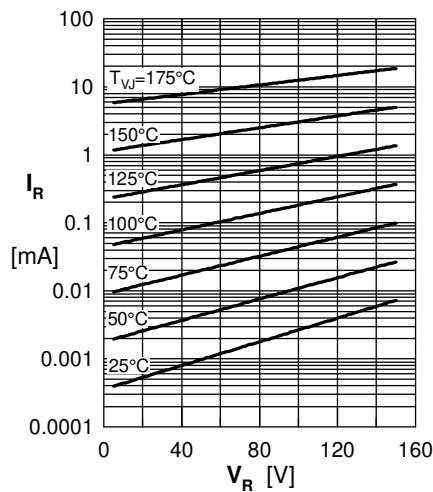


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

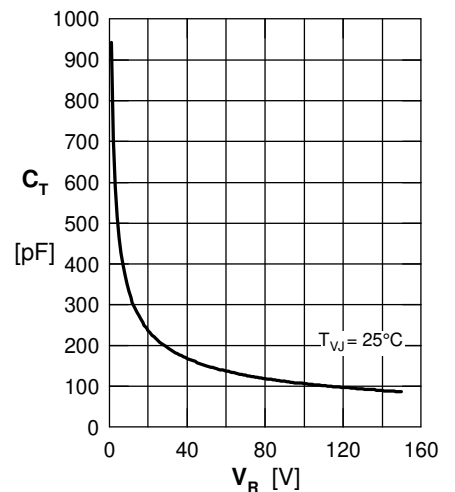


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

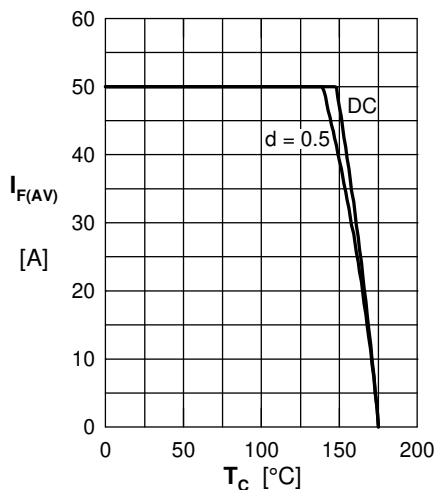


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

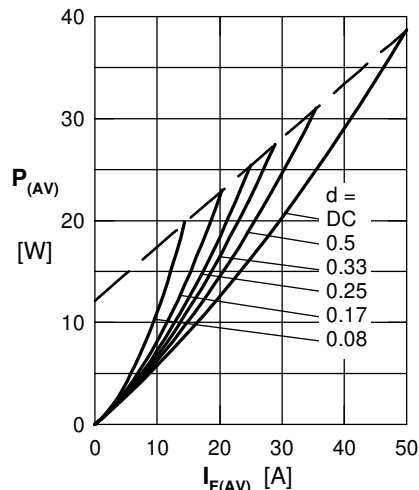


Fig. 5 Forward power loss characteristics

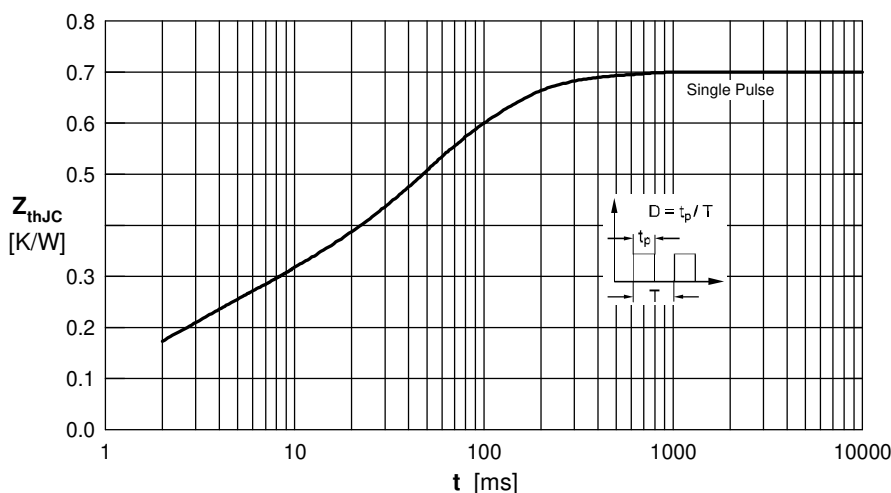


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode