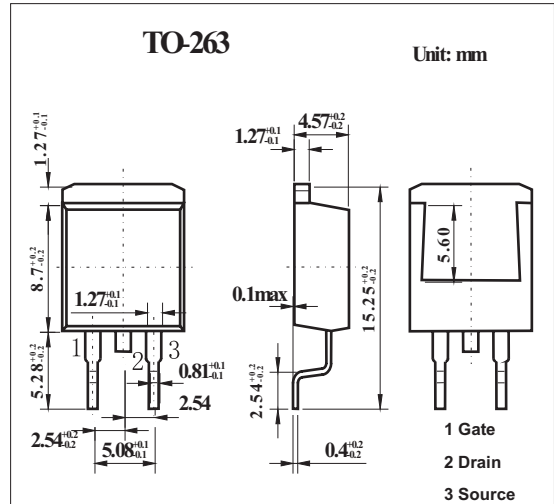


■ Features

- Low gate charge:
- $Q_G = 22 \text{ nC TYP.}$  ( $V_{DD} = 400 \text{ V}$ ,  $V_{GS} = 10 \text{ V}$ ,  $I_D = 10 \text{ A}$ )  
Gate voltage rating:  $\pm 30 \text{ V}$
- Low on-state resistance  
 $R_{BS(on)} = 0.85 \Omega \text{ MAX.}$  ( $V_{GS} = 10 \text{ V}$ ,  $I_D = 5.0 \text{ A}$ )
- Avalanche capability ratings



■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	$V_{DSS}$	500	V
Gate to Source Voltage	$V_{GSS}$	$\pm 30$	V
Drain Current(DC)	$I_{D(DS)}$	$\pm 10$	A
Drain Current(pulse) *1	$I_{D(pulse)}$	$\pm 40$	A
Total Power Dissipation ( $T_A = 25^\circ\text{C}$ )	$P_T$	1.5	W
Total Power Dissipation ( $T_C = 25^\circ\text{C}$ )		85	
Channel Temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$
Single Avalanche Current *2	$I_{AS}$	10	A
Single Avalanche Energy *2	$E_{AS}$	10.7	mJ

\*1.  $PW \leq 10\mu\text{s}$ ,  $D$ duty cycle  $\leq 1\%$ .

\*2. Starting  $T_{ch} = 25^\circ\text{C}$ ,  $V_{DD} = 150 \text{ V}$ ,  $R_G = 25 \Omega$ ,  $V_{GS} = 20 \text{ V} \rightarrow 0 \text{ V}$

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = 500\text{ V}, V_{GS} = 0\text{ V}$			100	$\mu\text{A}$
Gate Leakage Current	$I_{GSS}$	$V_{GS} = \pm 30\text{ V}, V_{DS} = 0\text{ V}$			$\pm 100$	nA
Gate Cut-off Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$	2.5		3.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{ V}, I_D = 5.0\text{ A}$	2.0	4.0		S
Drain to Source On-state Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{ V}, I_D = 5.0\text{ A}$		0.68	0.85	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 10\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ MHz}$		1200		pF
Output Capacitance	$C_{oss}$			190		pF
Feedback Capacitance	$C_{rss}$			10		pF
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 150\text{ V}, I_D = 5.0\text{ A}, V_{GS(on)} = 10\text{ V}, R_G = 10\ \Omega, R_L = 60\ \Omega$		21		ns
Rise Time	$t_r$			11		ns
Turn-off Delay Time	$t_{d(off)}$			40		ns
Fall Time	$t_f$			9.5		ns
Total Gate Charge	$Q_g$	$V_{DD} = 400\text{ V}, V_{GS} = 10\text{ V}, I_D = 10\text{ A}$		22		nC
Gate-Source Charge	$Q_{gs}$			6.5		nC
Gate-Drain Charge	$Q_{gd}$			7.5		nC
Diode Forward Voltage	$V_{F(S-D)}$	$I_F = 10\text{ A}, V_{GS} = 0\text{ V}$		1.0		V
Reverse Recovery Time	$t_{rr}$	$I_F = 10\text{ A}, V_{GS} = 0\text{ V}, di/dt = 50\text{ A} / \mu\text{s}$		0.5		$\mu\text{s}$
Reverse Recovery Charge	$Q_{rr}$			2.6		$\mu\text{C}$